

small air forces observer

vol 14 no 1 (53)
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WINTER WAR BLENHEIMS
SWEDISH VOLUNTEERS IN FINLAND & BIAFRA

vol 14 no 1 (53)

January 1990



small air forces observer

the newsletter of the Small Air Forces Clearing House

CONTENTS

Abstracts	4
Letters (Koppel, Schynert)	6
Posters (WWII Insignia, First to Fight)	6
Blenheims in Finland (Marttila)	7
Flygflottilj 19 (Hurme)	11
Aircraft of F19 (Przymusiaka)	13
Winter War Finnish D.21	17
Books (Swedish Mustangs; Pakistan AF; World Naval Aviation; Grumman A/C; Finnish Blenheims; Intruder; Vigilante; MiG-17, Hurricane, & Spad 7/13)	18
Kits (C-45)	20
Biafra Babies (Hellstrom)	21
Kits (Flagon, Prentice, MB-326, MB-339)	24
Decals (Finnish D.21, Greek AF, Dutch AF) ..	26
Hundustan HF-24 Marut (Denny)	28
African SF-260 (Gretzyngier)	29
Iranian F-14 (Cance)	29
Sketch Book: MiG-21MF (Przymusiaka)	32
UN in Lebanon (Hellstrom)	34

SAFO EDITORIAL POLICY: The purpose of the SAFCH is to "promote interest in the history and modeling of the aircraft of the smaller countries". In support of this goal, the SAFCH encourages international cooperation in researching the history of aviation on all aspects of aviation, both military and civil, from all periods of time, and for all the smaller countries. In return for this support, members are asked to submit occasional progress reports for publication in the SAFO. While the final results should appear in the most prestigious publication possible, it is requested that the SAFCH be mentioned (with address) in the article and that SAFO be afforded the opportunity of reprinting the material.

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COVER COMMENTS: Freshly-painted MFI-9B of the Biafran Air Force at Camp I, Gabon, May 1969. An article on the Biafran Babies begins on page 21. [Editor's Note: The author's 1/72-scale kit of this a/c are still available from the SAFCH.] Photo: Gunnar Haglund.

EDITORIAL: Our series honoring the small air forces in WWII continues with several articles commemorating the 50th anniversary of the Winter War, including the Finnish Blenheims and the Swedish volunteers of F19. The story of the Finnish AF in the Winter War arrived too late for inclusion in this issue, but it will appear in the April issue. Because of the large number of manuscripts being received, we have had to delay publication of the promised article on modeling Polish a/c of the September Campaign. Also, the series on the day-by-operations in the September Campaign will resume as soon as possible. Articles on many of the other small air forces have been promised, but notable in their absence are Holland, Denmark, Hungary, Romania, and Bulgaria. If you would like to help on any of these, please let me know.

PHOTO PAGE: Top - Finnish Bristol Blenheim Mk.I BL-106 on non-retractable skis. Photo Valmet Oy via Martti Virhimo. Bottom - The crew of BL-129 on 7.3.42. From left: gunner Harraren, pilot Ahtiainen, and bombaimer Lang. Note the retractable ski undercarriage. Photo via A. Ahtiainen.

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AUSTRALIA

AUSTRALIAN PLASTIC MODELLER'S ASSOCIATION (APMA, PO Box 51, Strathfield, NSW 2135; 4 issues sea mail A\$27, airmail A\$30).

3/89 (24 pages) "The Modeller's Computer" 2 pages on keeping references on a computer. "Qantas's Busy Biz-Jets" 3 pages including side-views of HS-125. "B-17C/D Conversion" 5 pages. "Hungarian Stuka" one page with side-view. "Low-Viz Kingfisher" one page with 3-view of RAAF Kingfisher. "50 Years of No. 10 Sqn.: The Unfamiliar Ones" 4 pages including side-views of Oxford, Wirraway, Mustang (in yellow/black towing tug markings), Dakota, and Winjeel.

NEWS AND VIEWS (IPMS NEW SOUTH WALES, PO Box 637, Broadway, NSW 2007; 4 issues A\$20.00 surface or A\$25.00 air mail).

3/4 89 (44 pages) "Frogfoot" 4 pages including 3 pages of drawings (one Cz. a/c). "Spear Fishin'" 9 pages including side views of Wavern (3), Firebrand (3), Spearfish (3), and Gannet (5 plus one RAN). "South East Asian Miscellany" one page with side-views of Khmer Bird Dog & Texan and Burmese Bugsmasher. "RAAF Pilots in the RAF" one page with 3 side-views (Mustang I, Hurricane IIc, & Spitfire XIV). "Do24" 6 pages including 5 pages of drawings. "South East Asian T-Birds" one page with 3 side-views (Philippines, Singapore, & Indonesia). "Fighters Squadrons of the RAAF in WWII: Part 7, No. 5 Squadron" 6 pages with conversion details for Wirraway and 12 side-views [DH-9, Wirraway (4), Boomerang (6), & P40N]. "76 Squadron Macchis" one page with one side-views. "RAAF in the Mediterranean: No. 458 Squadron; Part 2" 2 pages with 2 side-views of Wellingtons. "RAAF Boeing" one page with side-views of 707. "Hornet Update" one page with one side-view.

AUSTRIA

OFH NACHRICHTEN (Oesterrichische Flugzug Historiker, Kannwegasse 1/15, A-1150, Wien).

3/89 (24 pages) "80 Jahre Flugplatz Wiener Neustadt" 7 pages including 2 photos and 2 side-views (Etrich A II & Offag C II). "Udet's Hawk" 3 pages including 2 side-views of Udet's Curtiss F11C-1. "Die Feindflug von FP Eugen Bonsch mit dem Albatros D III 153.140" 5 pages including side-view of 153.140 and flight log.

BELGIUM

KIT (IPMS Belgium, Te Couwelaarlei 103 bus 21, B-1200 Deurne/Antwerp; 4 issues for US\$ 13.00, add \$3.00 for airmail, no personal checks accepted).

#74 Summer 1989 (28 pages) "Thunderstreak in Belgian Service: Part 3" 19 pages including 14 photos, 4 pages of 1/72-scale drawings of color scheme and panel lines, and history of individual aircraft.

BRAZIL

EM ESCALA (IPMS Brazil, Rua Arquias Cordeiro, 316 S/502, CEP 20770, Meier, RJ. Subscription is \$7.00, but they prefer to receive kits or accessories. Send material to Antonio Pereira Linhares at the above address.)

2/89 (20 pages) "Portuguese A-7P" 2 pages including 4-view scale drawing of color scheme.

CANADA

RANDOM THOUGHTS (IPMS Canada, Box 626, Stn. B, Ottawa, Ontario K1P 5R7; 6 issues for US \$16.00 in US \$18.00 elsewhere).

20/2 (24 pages) "Grumman Goose" 13 pages

including 17 photos of details of Canadian civilian aircraft and 4 pages of 1/72-scale drawings with cross sections. "Foreign Trade" 3 pages on how to trade kits with pen-pals in Eastern Europe.

20/3 (24 pages) "Canadian Seafire XV Markings & Details" 15 pages including 12 photos and 8 pages of color schemes.

DENMARK

NYT (IPMS Denmark, c/o Bjorn Jensen, Rosenvaegets Alle 6, 2100 Kobenhavn 0; 4 issues for 90 Dkr surface, 100 Dkr airmail).

#45 (30 pages) "Aero C-3A" 3 pages including 2 pages of scale drawings.

ENGLAND

PLASTIC KIT CONSTRUCTOR (Pamag, Freepost, 22 Slayleigh Ave., Sheffield S10 1BQ; 4 issues £ 15. In USA: J.J. Daileida, 4314 West 238th St., Torrance, CA 90505; 4 issues \$18.00).

#21 November 1989 (36 pages) "Scratch Building in 1/72 Scale" 2 pages of step-by-step instructions. "MB6 and MiG-15" 2 pages on building a MB6 from the Airfix MiG-15. "A Home-Made Vac-Forming Machine" 2 pages on building a machine with a built-in heat source. "Belgian Alpha Jet" 2-page drawing of display aircraft.

THE PUTNAM AERONAUTICAL REVIEW, Conway Maritime Press Ltd., PO Box 10, Teignmouth, Devon, TQ14 9HH; 4 issues for \$33.00.

October 1989 (68 pages) "In Poland the Luftwaffe Strikes and Wins" 14 pages including 27 photos and 3 maps covering the September Campaign from the German side. [Editor's note: Concerning the initial attack on Polish airfields, the author states, "not a single (Polish) front-line aircraft had been hit." Perhaps this will help discredit the myth that the Polish Air Force was destroyed on the ground.] "The Paper Tiger goes to War" 6 pages including 8 photos. "The Advanced Air Striking Force goes to France" 6 pages including 9 photos. "Westward to Whitechurch" 7 pages including 4 photos. "The Birth of Air Transport" 13 pages including 21 photos. "The Sopwith century that Shook the World" 8 pages including 8 photos.

FINLAND

MALLARI (IPMS Finland, PL 798, 00101 Helsinki 10; 6 issues \$20.00, add \$1.00 for airmail and \$1.50 for cashing personal check).

3/89 (20 pages) "Vickers 6-Ton Tank" 7 pages including 12 photos and 2 pages of drawings. [Editor's note: I know this is a creepy crawler, but it's a nice article.]

FRANCE

LA VITRINE DU MAQUETTISTE (IPMS France, 73 rue Alexandre Dumas, 75020 Paris; 4 issues 60 FF surface, 80 FF air, back issues 12 FF, "La Lettre de l'IPMS" 25 FF).

#36 (44 pages) "F-8FN Crusader" 5 pages including 14 photos of French aircraft. "Breguet Alize" 3 pages with 15 photos. "15 Annees d'Atlantic au MLD" 3 pages including 5 photos of Dutch aircraft. "Breguet Atlantic" 6 pages including 12 photos and a giant (32 in. by 22 in.) center-fold 1/72-scale drawings.

GERMANY

MITTEILUNGEN (IPMS Germany, Bergengruenstrass 5-7, D-1000 Berlin 38; 12 issues DM 60.00 Europe, DM 65.00 USA, DM 70.00 Japan, DM 75.00 Australia).

5/89 (30 pages) Nothing of small-air-force

interest.

6/89 (30 pages) Photo: Polish MiG-29.

ITALY

AEROFAN (Giorgio Apostolo, via Ampere 49, 20131 Milano; 4 issues L 40.000).

4/89 (36 pages) "A Partisan Airfield in Piedmont" 4 pages including 5 photos. "Breda A.7" 4 pages including 8 photos and 1/72-scale drawings. "Pantelleria, a Base in Sicily Channel" 6 pages including 12 photos and 2 color side-views of MB-338. "Locatelli over the Andes" 4 pages including 5 photos, a map, and a painting of SVA-5, the first aircraft to fly over the Andes. "Un Autogiro per la Regia" 3 pages including 2 photos. Two-page English translation.

JP-4 (JP-4, CP 1550, 50100 Firenze; L 27.000 Europe, L 30.000 elsewhere).

9/89 (100 pages) "Dia da Caca" 5 pages including 9 color photos of Brazilian AF aircraft. "50 Anni fa la Guerra" 6 pages with 17 photos [Editor's note: An Avia B.534 in Slovak markings is mistakenly captioned "dell'aeronautica croata".]

ROMANIA

MODELISM TEHNIIUM (Rompresfilatelie, PO Box 12-201, Bucuresti, Calea Grivitei 64-66, ROMANIA; one year - 4 issues - \$10.00.)

2/89 (32 pages) "IAR-80" 9 pages including 10 b&w and 5 color photos and 1/32-scale drawings. "Energhia + Buran" 2 pages including 1/185-scale drawings. "Romanian Plastic Model Kits" [Editor's note: Airfix kits with Romanian decals, e.g. Hurricane.]

SOUTH AFRICA

GOLDEN JAW (IPMS Johannesburg, PO Box 84606, Greenside 2034; subscriptions on application.)

#4 (32 pages) "Mil Mi-24 Hind" 7 pages building the Monogram kit in Angolan or Mozambique markings. "Bahrain F-5E" one-page drawing. "Saudia Arabian Tornado" one-page drawing. "Saving the Sukhoi" 10 pages on building the VEB kit of the Su-7 including 4 pages of drawings and markings for Indian aircraft. (Review copy courtesy SAFCH member Colin Burgess.)

SWEDEN (Compiled by Leif Hellstrom)

FLYGHISTORISKT MANADSBLEAD (Swedish Aviation Historical Society, Box 308, S-101 24, Stockholm; 10 issues SEK 260.00 air mail.)

10/89 (16 pages) "Pilot Profile: Nils Ellenfors" 2 pages including 7 photos. "Swedish Aircraft Industry 60 years Ago" 2 pages including 8 photos. Photos: O 1 replica, S 5, S 9, J 5, S 8, O 7.

11/89 (24 pages) Various short articles, mainly connected to F4 Wing. Photos: A 1, B 3, B 4, B 17, J 26 (including a Mustang on skis!), J 29, J 35, Sk 16, Sk 28, S 14, gliders, Thulin A, B and E, French Nordatlas.

12/89 (24 pages) Various short articles of little SAFO interest. 5-view drawing of Friedrichshafen FF.49c. Photos: FF.49c, S 5A, S 7, J 22, SK 35C, Latvian AF S.A. "Pirat", Latvian Navy Hansa Brandenburg. (NOTE: This is the last issue to be published; from 1990 the name, size and number of issues will be changed.)

KONTAKT (Kontaktgruppen, Box 4015, S-422 04 Hisings Backa; 5 issues SEK 160.00 air mail) 94 (36 pages) "Klemm Kl 35 - Sk 15" 25

pages with 29 photos, 4-view drawing, various detail drawings and list of all RSWAF Klemms, Photos: TP 83, J 35.

SWITZERLAND

VIRUS PLASTICUS (IPMS-Switzerland, c/o Mathias Weichelt, Zelgstrass 27, 3027 Bern; 4 issues 35 SFr)

3/89 (32 pages) Nothing of small-air-force interest.

USA

WWI AERO (Leonard Opdycke, 15 Crescent Rd., Poughkeepsie, NY 12601; 5 issues \$ 20.00).

#126 11/89 (122 pages) "Burgess Pt III" 10 pages including 17 photos. "Fowler-Gage" 8 pages including 9 photos. "Dornier V1" 4 pages including 8 photos. "Museums" List of 109 aircraft displayed in the pre-WWII Deutsche Luftfahrt Sammlung (a 1/72-scale model of the exhibit floor is being built) and 1/72-scale drawings of aircraft #90 (Rumpler C.IV) and #46 (Halberstadt Cl.II). "Color & Markings" 3 pages including photos of USAAC SE5 and Dutch Fokker D.VII and D.VIII.

SKYWAYS (World War I Aeroplanes, 15 Crescent Rd., Poughkeepsie, NY 12601; 4 issues \$ 20.00)

#12 Oct. 1989 (84 pages) "Mussolini's Eagles over Guernica" 12 pages including 19 photos. "North American O-47A" 6 pages including 7 photos and 3 pages of Paul Matt's scale drawings. "Curtiss-Wright CW-1" 2 pages including 3 photos. "Junkers-Larsen JL-6" 6 pages including 3 photos. "Navy & Marine Aircraft 1930-1933" 8 pages including 22 photos. "Cockpits: Curtiss SOC Seagull" 5 pages with 7 photos.

PACIFIC MODELEER (USA \$7.00, others \$8.00 from IPMS-Hawaii, PO Box 1941, Pearl City, HI

#28 (20 pages) Mostly tanks, but nice feature "Workspace" with photo of a modeler's work bench with a discussion of the modeler's modeling philosophy; keep this series going - its great.

AIR INTERNATIONAL

ARGENTINA/BRAZIL: South American Way (CBA-123), Vol. 37, No. 1, p 14.

AUSTRALIA: From Kings to Hawks (RAN), Vol. 37, No. 1, p 7.

BHUTAN: The Thunder Dragon Airline, Vol. 37, No. 4, p 189.

CANADA: Fire Bombing Update (CL-215T), Vol. 37, No. 3, p 113.

Canada's German Airline (412 Sqn's DASH-8s), Vol. 37, No. 6, p 300.

CHILE: Chilean Challenge (FAC), Vol. 37, No. 6, 269.

CZECHOSLOVAKIA: Avia 135; The Last of a Linage, Vol. 37, No. 1, p 48.

DENMARK: Danish Air Power, Vol. 37, No. 5, p 225.

MOROCCO: Green March from Morocco (RMAF's Aerobatic Team), Vol. 37, No.5, p 246.

THE NETHERLANDS: Filling the Fighter Gap (RNethAF's PC-7), Vol. 37, No. 1, p 39.

NORWAY: Guardian of the Northern Lights (RNoAF), Vol. 37, No. 4, p 173.

Compiled by Tor Scott (SAFCH #403), 6211 Monkland Ave. #5, Montreal, Quebec, CANADA H4B 1G5.

"The local newspapers reported some interesting aerial activities in the Middle East: Two Syrian MiG-23s are said to have defected, one to Israel and the other to Egypt. The first has been fairly well documented, but has anyone heard anything more about the second one? Another article says a Lebanese pilot ejected from his Hunter over the Mediterranean Sea. I thought the Lebanese AF was totally grounded, so this report came as a bit of a surprise."

Ted Koppel (SAFCH #118), 3520 N. Rolling Rd., Baltimore, MD 21207-2202.

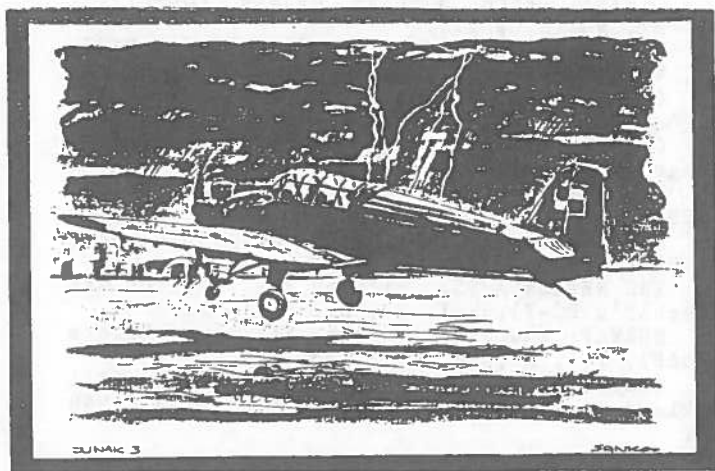
"I would like to pass on some information about PM TURKEY. In SAFO #48 you published their request for colors and markings for the C-45 and AT-11. I went through my references and compiled data on four or five schemes. I sent the information to Istanbul and promptly forgot about it. Eventually, the C-45 kit came out (and it's a nice kit for the money). The real surprise came about a month later, when I received a package from PM; inside was the C-54 kit! This gift is all the more surprising because none of my data showed up in the kit's color schemes, though I suppose it's possible one will end up in the AT-11 kit. And to top it off, I'm now on PM's Christmas card list as well! The point is, I think, that PM really did want help from SAFCH members, and was happy to get it - something our membership deserves to know."

Mark Schynert (SAFCH #846), 35912 Vivian Place, Fremont, CA 94536.

SMALL AIR FORCES IN WATER COLORS

One of our Polish members, Wojciech Sankowski, has sent the SAFCH some beautiful water colors of aircraft subjects. These paintings are approximately 21 cm by 15 cm and include the Avia B-122, RWD-9, TS-11 Iskra, MB200, LIM-6bis, Su-25K, Kamov Ka-26, Junak 3, L-39 Albatros, & Rogozarski PVT. All aircraft are painted in accurate colors and markings, and the backgrounds are colorful and dramatic. All are mounted on matt board.

These painting may be obtained from the SAFCH for \$8.00 each. Of course, if you are not fully satisfied, the painting can be returned for a full refund.



"I'm looking for information on the color schemes for Israeli Beech Bonanza 35 and Vultee BT-13. Can any SAFO readers help?"

Jorge Delgado (SAFCH #862), PO Box 2207-u, Guayaquil, ECUADOR.

"Anyone who has information or is interested in discussing the aircraft and markings of local Chinese air forces: Canton 1931-36, Kwangsi 1932-37, Shansi 1925-30, etc., please contact me."

Lennart Andersson (SAFCH #68), Tiundagatan 52B, S-752 30 Uppsala, SWEDEN.

"I need help in locating French WWII decals, squadron insignia and roundels in 1/48 scale, for the D-520, MS-406, and bomber units. I also need the AMT 1/48-scale kits of the Beech 17 Staggerwing and the Hawker Tempest. I will pay whatever is reasonable."

Edward Cserny (SAFCH #964), c/o Daniel Birdsell Co., State Building, 270 Broadway, New York, NY 10007.

"Does anyone have a copy of ROMANIAN AERONAUTICAL CONSTRUCTION 1905-1974, by Guaju Iacobescu and Ionegcu for sale or to be lent?"

N. Richard Treese (SAFCH #941), 3721 6th Ave, Altonna, PA 16602.

"New and used aviation books for sale. For list, send SASE to: David Zwolak, 1336 St. Vincent St., Philadelphia, PA 19111."

POSTERS

AIRCRAFT INSIGNIA OF THE FIGHTING POWERS 1939-45. Guano Aeroplane and Zeppelin Works, 5802 NE 59th St., Seattle, WA 98105.

In an appropriate tribute to the 50th anniversary of the beginning of WWII, Wesley Moore (SAFCH #84) has produced a 16 inch by 22 inch poster displaying the national insignia of all the belligerents. On display are 92 insignia representing 34 countries. Wesley says the colors of the insignia are approximated by 9 tints from inks selected to get the best intensity for most of the colors. It must have worked because the poster is extremely colorful.

These posters can be obtained directly from Wesley, at the address above, for \$5.50 to US, Canada, & Mexico, and \$7.50 to Europe (air mail). Of course, all posters will be shipped in a mailing tube. He also hopes to have them available in air museums and model shops. Alternately, they can be obtained from the SAFCH Sales Service.

This attractive poster would add an appropriate touch of color to the den or workshop of any small-air-force enthusiast.

To commemorate the 50th anniversary of the invasion of Poland, the Intrepid Sea Air Space Museum, New York City, is conducting a display of memorabilia and models. Coordinated by Mike Dobrzelecki (SAFCH #682), this exhibit will run from 1 September 1989 to 5 July 1990. The Museum has produced an attractive poster for this event: 16 inches by 36 inches, printed in black, white, red, and gold, this poster features the Polish flag, tattered, but still flying, and the inscriptions "First to Fight", "1939 Poland Invaded", and "Poland is not yet perished as long as we are alive".

This poster is highly recommended and, thanks to the generosity of Mike, they are available through the SAFCH Sales Service.

BRISTOL BLENHEIMS IN FINNISH SERVICE

Finland, which had been an independent republic since 1917, entered WWII when Soviet troops attacked on 30 November 1939. For Finland, WWII was divided into three distinct parts. (1) The Winter War: 30 November 1939 to 13 March 1940. (2) The Continuation War: 25 June 1941 to 5 September 1944. (3) The Lapland War: 28 September 1944 to 27 April 1945. (When the war with the Soviets ended in September 1944, the peace negotiations stipulated that the Finns were to assist in expelling the German troops who were retreating towards Norway.)

Non-Finnish readers are often curious about the light-blue swastika on a white disc that was the national marking for Finnish military aircraft until September 1944. The Finnish Air Force received its first aircraft as a gift from the Swedish Count Eric von Rosen in 1918. Since the Count's family good luck symbol, a blue swastika, was painted on the gift aircraft, it was adopted as the national aircraft insignia. After WWII, the Finnish national markings was changed to the present-day blue and white roundel.

THE BRISTOL BLenheim

The Royal Air Force ordered 150 Bristol Blenheim aircraft in August 1935 while the aircraft was still on the drawings boards. The Bristol Aircraft Company had designed and built a modern, all-metal, monocoque, twin-engine, fast passenger aircraft named "Britain First" which had flown four months before the RAF order had been placed. This design would be developed and modified into a fast bomber and reconnaissance aircraft: the Bristol Blenheim.

From the Blenheim Mk. I, Bristol developed in 1938 a longer version called the Mk.IV.

	Mk.I	Mk.IV
Weight	12,500 lb	12,500 lb
Span	56 ft 4 in	56 ft 4 in
Length	39 ft 9 in	42 ft 9 in
Speed	285 mph 15000 ft	266 mph 11800 ft
Ceiling	27,280 ft	22,000 ft
Range	1,125 miles	1,450 miles
Bomb	1,000 lb	1,320 lb

Source: Purnell's History of the World War Bombers 1939-1945.

Great Britain	1396	3122
Finland	45	15*
Yugoslavia	45	-
Canada**	16	676**

* Actually 10 were built in Finland

** Bolingbroke

Source: Geoff Green, Bristol Aerospace since 1910.

Canadian made Blenheim Mk.IV were named Bolingbroke and they were slightly different from the Blenheim, having, for example, de-icing equipment. The Finnish Blenheims never had such equipment. The Blenheims currently in the British Museums are all Canadian Bolingbrokes. The one and only genuine Blenheim lies in the storage room of Keski-Suomen Ilmailumuseo in Finland.

Because of the uncertain political situation in Europe in the mid-1930s, The Finnish Air Force began the search for a suitable bomber and reconnaissance aircraft. This was a long and complicated process, but in April 1936, the decision was made at last: the new aircraft would be the Bristol Blenheim. This was even before the the prototype and first production Blenheim Mk.I, serial number K7033, made its initial flight on 25.06.1936 and before the RAF reported that they were very pleased with the aircraft.

In October 1936, Finland formally became the first foreign customer to order the Blenheim when it signed an agreement to purchase 18 aircraft. These were called Series I Blenheims in Finnish service and they were flown to Finland by Finnish pilots on the following dates:

7/1937	BL-104, 105
12/1937	BL-106, 107, 108
2/1938	BL-109, 111, 112
3/1938	BL-110
6/1938	BL-113, 114
7/1938	BL-115 to BL-121

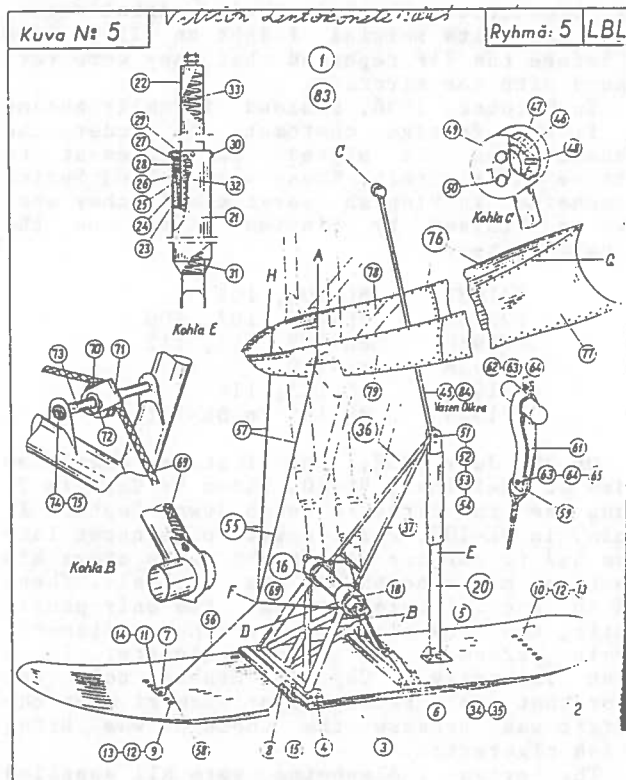
On 29 July 1937, the first two Blenheims landed at Helsinki; BL-104 flown by Captain T. Hannus was the first to touch down. Captain A. Eskola, in BL-105, was a couple of minutes late as he had to perform some tight turns above his home five miles north of the airfield. There were no special celebrations; the only people greeting the new aircraft were Major Alameri, Captain Pertamo, and some engineers. In a recent interview, Captain Eskola told the author that only reason Major Alameri meet the aircraft was because the Captain was bring British cigarettes.

The Series I Blenheims were all supplied without turrets and it required a lot of correspondence with the Bristol Aeroplane Co. before the turrets were delivered in the spring and summer of 1939. Fortunately, the Finnish Blenheims were fully equipped to fight when the Soviets invaded in November 1939.

The quality of the Blenheim was very high, but there were some problems. In some cases, the fuel pump became unserviceable after only a short time causing dangerous fuel leakage. One aircraft lost its reduction gear and propeller. The Bristol Co. was always eager to help in case of trouble. Their agent in Finland at that time was an Estonian businessman, Shura Reichel. Part of the correspondence between the factory and the Finnish Air Force went via him, but that was found to be unnecessarily bureaucratic, so later the information was delivered directly to the Air Force.

Finland is a country with innumerable lakes and a long coastline. It was seriously proposed to put at least one Blenheim on floats. In 1938, the Finnish Air Force asked Short Brothers and Bristol for details for such a conversion. Since at that time there were no Blenheims on floats, the information received was based on calculations. It transpired that the fuselage would have needed extensive strengthening for the floats and this would substantially reduce the carrying capacity of the aircraft. Nothings was said, of course, about the effect of the floats on the maneuverability of the aircraft.

During the winter it was difficult to keep the airfields clear of snow, so special skis were designed and constructed for the Blenheims. These were nonretractable and the resulting loss of speed was about 10%. On the other hand, it was possible to land on snow 70 cm thick, but not to take off. During the Winter War, some Blenheims with skis were involved in air battles near Suomussalmi and it was seen that aircraft so fitted had lost their good maneuverability. (Later, during the Continuation War, retractable skis were constructed. They proved to be quite good, although fragile.)



RETRACTABLE SKIS

The excellent maneuverability of the Blenheim is illustrated in the experiments made by Captain K. Kepsu before the war. The Fokker D-21 fighter pilots and Blenheim bomber pilots used to see who was best flying horizontal circles of 360 degrees. The Fokker pilots averaged 21-22 seconds and the Blenheim pilots 17-19 seconds. If the Fokker was pushed faster, it tended to go into an erratic movement. Kepsu's record with a Blenheim was 14 seconds. He says that he needed extra strength in the muscles to achieve that remarkable result.

LICENCE CONSTRUCTION

In 1938, Valtion Lentokonetehtäas (State Aircraft Factory) bought the licence to manufacture Blenheim Mk.IIs. The following year the Finnish Air Force ordered 15 Blenheim to be built as Series II aircraft. An attempt was made to obtain drawings for the Blenheim Mk.IV but time had run out. It would have taken too long to provide new drawings and to change the tooling. Therefore, they began to build Blenheim Mk.I, but because of the Winter War only 15 aircraft were completed by January 1942.

To build aero engines in the 1930s was the "high tech" of the day. When Oy Tampella Ab began to build the Mercury nine-cylinder radial engine under licence in 1938, they got

instructors from the Bristol Co.: Mr. Wheeler-Kither, Mr. Adams, and Mr. Groundwater. Some Finnish experts, such as H. Backstrom and P. Savolainen, visited the Bristol factories at Filton. If the workmanship was good at Bristol, it was no less so at Tampella. Nevertheless, the Finnish mechanics still had much to learn. One of the new demanding tasks was the 100-hour type test, but Tampella succeeded without any trouble.

Mercury VIII

Power 720 hp at 2400 rpm at 12,500 ft
Max Power 795/825 hp at 2650 rpm

Mercury XV

Power 795/825 hp at 2650 rpm at 13,000 ft
Max Power 810/840 hp at 2750 rpm at 14,000 ft

During the spring and summer of 1939, Captain A. Eskola made several photo reconnaissance flight over Soviet territory with a Blenheim. At first, an Eagle IV camera was used, but this camera was not suitable for the cold at 7,000 meters. Later, a Zeiss camera was used by Eskola.

Only once was the Blenheim detected by the Soviets. The oxygen pipe had broken away from the pilot's mask without his knowledge. After awhile he became unconscious and the aircraft began to make strange movements. Luckily the bomb aimer/navigator was able to give the pilot oxygen and they managed to get home without being intercepted by fighters. The Soviets also made many reconnaissance flights over Finland during the summer, but such flights are common on the eve of a war.

In the autumn of 1939, the Soviets had more aircraft than the Finns. In his book about the Winter War (Talvisota Ilmassa), Colonel Risto Pajari estimates that the Soviets had at least 800 aircraft near the Finnish border; 30% of these were bombers and 60% fighters. (Another source insists that the Soviets had 2000 aircraft in the same area.) In contrast, according to Pajari, the Finns had a total of only 116 aircraft and 30 of these were obsolete or worse. For the comparison, the British had 1089 Blenheim in September 1939.

THE WINTER WAR

The day after the war broke out, 01.12.1939, the disposition of the Blenheims was as follows: Lentorykmentti 4 (Flying Regiment 4) was subordinated to the Head Quarters and commanded by Lt. Colonel T. Somerto. It had two squadrons: Lentolaivue 44 and Lentolaivue 46. Both were located at Luonetjärvi in the middle of Finland near Jyväskylä. Lentolaivue 44 was commanded by Major E. Stenback and had eight Blenheims. The commander of Lentolaivue 46 was Major O. Sarko and he had nine Blenheims. The remaining Blenheim was under repair at that time after experiencing an accident. The commander of the Finnish Air Force was General J. Lundqvist.

The Finnish Air Force lost its first Blenheim on this day. under the command of Captain K. Kepsu, three Blenheims from Lentolaivue 46 stood ready at Luonetjärvi waiting for the order for the first bombing mission of the Winter War. The weather was bad and it began to snow. (Under the California sun, it might be difficult to image how dark and short the days are in December in Finland.) In the late afternoon, the bombers were ordered to go. To achieve surprise, they flew well around the target area and approached it from behind. Each aircraft carried four 100-kg, four 50-kg, and four 12.6-kg bombs. The clouds were

very low, about 100 meters, but the Blenheim could see a camp crowded with troops around fires, perhaps having their evening tea. Bombs were dropped although the safe altitude for this should have been at least twice as much. The explosions shook the planes and in the dark, bad weather, they got separated. After many difficulties, including flying along roads under the tree tops, two of the planes managed to land safely at Joroinen. The third, BL-110, headed for home at Luonetjärvi but then turned back, perhaps disbelieving their navigational calculations. After 10-15 minutes, the aircraft flew straight into a hill and was destroyed with its crew of three. Now the Finnish Air Force had only 17 bombers left.

The first Blenheim had Marconi radios and they were of inferior quality and they proved a great problem in bad weather, as in the case of BL-110. It was also impossible to communicate with our fighters. Later Finnish radios were installed and during the Continuation War we got excellent German FUG-10 radios which greatly pleased the radio operators/gunners.

As to the internal communication system, a reel of rope was part of the repair kit of every Finnish Blenheim until 1942. These were used on the rather frequent occasion when the telephone connection between the gunner and the pilot went out of order.

During Christmas our Air Force began to use all its skill and influence to acquire more bombers as quickly as possible. Finland was getting much sympathy and even promises of material aid from Western countries, so it was thought that it might be possible to get bombers from Great Britain without any payment. The British approved the sale of 12 Blenheim, but we had to pay for them. Pilots were mobilized and flown from Helsinki to Stockholm and from there they went by train and ship to Great Britain. They picked up 12 Blenheim Mk.IVs, which were called Series III by the Finnish Air Force. One of these aircraft was lost on the flight over the North Sea; the weather was nasty and another plane nearly flew straight into the sea trying to descend below the clouds. One Mk. VI crash-landed in Sweden and was only repaired on 5.6.1940. In February, 12 more Blenheim Mk.I were purchased from the RAF. These were called Series IV. and they were flown to Finland by British pilots.

The armament, fitted to the Finnish Blenheim was insufficient. The two-gun turret was never used. The veteran gunner, E. Lindqvist, remembers that the gunners sometimes shot at the enemy fighters with their signal pistols. This was effective since the fighter pilot automatically pulled aside from the dangerous looking explosion. In some Blenheim, the bomb rack system was different from the British gear, but that was not a major modification.

The crew of the Blenheim consisted of pilot, bomb aimer/navigator, and gunner/radio operator. In Finland, the pilot operated the landing gear, but in the RAF they were operated by the navigator. In February 1940, one Finnish Blenheim was slightly damaged when a British pilot did not lower the undercarriage.

AERIAL COMBAT

During December 1939, the main operating areas for Finnish Benhems were north-east of the Lake Ladoga and Repola and Sumussalmi situated half way up the eastern border. The missions were carried out mostly by single aircraft. The Soviet fighters were not as fast as the Blenheim, but even so we lost many

aircraft during the war. Flak, weather, and enemy fighters took their toll. On February 1940, the Karelia Isthmus (between Lake Ladoga and the Gulf of Finland) became for the first time the operational area for our bombers. The third Blenheim squadron, Lentolaivue 42, was formed in January 1940. It was commanded by Captain A. Eskola.

In the beginning of March, the Soviets had a bridge-head on the western shore of the Gulf of Viipuri, southwest of the Karelia Isthmus. All flying regiments, including Lentorykmentti 4 were concentrating their operations against the advancing enemy troops which were moving over the frozen sea. Our Blenheim scored several air victories; e.g. Y. Hammaren had two official and one unofficial victories. One Soviet I-153 fighter went after BL-139 on 8 March 1940 and Hammaren got it with less than one hundred shots. Later on the 11th of March the same Blenheim had twelve fighters chasing it. The gun in the turret was the normal 7.7 mm Browning and the effective shooting distance was very short, about 50 meters. The other problem was that the ammunition drums were small and at long ranges they could be emptied before the target was near enough. Hammaren heard clearly the ticking sound from the four guns of the nearest I-153, but with one-hundred shots got a kill. The I-153 crashed into the courtyard of a Finnish officers' club. BL-139 dived for safety and the gunner changed drums just in time. With 37 shots Hammaren destroyed the next I-153. The other remaining fighters turned away.

The Bristol Blenheim was liked by the Finnish pilots. It was also regarded as very durable, this was a question of were the aircraft was hit. In January 1940, BL-115 was shot at by our own flak. (Inexperienced men were shooting at everything in those days.) The aircraft was hit by one fragment of flak which made a fist-sized hole in the fuselage, but that was enough, as the control wires were cut. The pilot, Oksala, was able to steady the Blenheim by using the engines and got it down on a frozen lake. The damage was negligible.

The same crew, in another Blenheim, came near to losing their lives again on 26 February 1940. BL-119 was attacked by an enemy fighter which shot both engines into flames and destroyed the instrument panel. The rudder and elevators were also put out of order. With only seconds to spare before the aircraft struck the ground, pilot Oksala managed to crash land in a clearing in the woods. The Blenheim was a total write-off, but the crew of three plus a passenger escaped unharmed.

AIR VICTORIES BY BLENHEIMS DURING THE WINTER WAR

Date	Place	Plane	Gunner	Victim
20.12.39	Mantsi	BL-106	Mörsky	I-16
01.03.40	Kolvisto	BL-132	Mörsky	I-16
08.03.40	Virolahti	BL-139	Hammaren	I-153
10.03.40	Muhulahti	BL-145	Hämäläinen	I-153
11.03.40	Kiiskilä	BL-139	Hammaren	I-153
11.03.40	Suur-Merijoki	BL-139	Hammaren	I-153

During the Winter War, Blenheim were used for bombing, photographic, and reconnaissance missions. Of course, bombing and reconnaissance were often accomplished on the same mission. Strafing enemy troops were also done, but with little effect; a couple of small calibre machine guns are not especially lethal. Bombs were dropped on enemy camps, troop concentrations, railroads, railway stations,

gun posts, aircraft bases, etc. Results would have been better if Blenheim had been a dive bomber. However, the enemy always had to be afraid of the possibility of getting some bombs dropped on him. Even with limited resources, it was many times possible to delay the advancing Soviet troops critical hours or days. Well accomplished missions were also very good for our combat morale. Very important were the results of reconnaissance and photographic missions.

When the hostilities ceased on 13 March 1940 and the Winter War was over, Finland remained independent, though we lost part of our territory, Karelia, to the Soviets. It is a fact the without the bomber force the results of the war could have been worse for us.

BLENHEIM LOSSES DURING THE WINTER WAR

Aircraft	Date	Dead	Wounded	Cause
BL-110	01.12.39	3		Bad weather
BL-112	06.01.40			Fighter
BL-127	18.01.40	2		Bad weather
BL-121	19.01.40	3		Fighter
BL-108	28.01.40	3		Bad weather
BL-123	14.02.40		2	Engine trouble
BL-113	18-02.40	2		Fighter
BL-119	26-02.40			Fighter
BL-126	29.02.40			Engine trouble
BL-144	07.03.40	2		Fighter
BL-122	07.03.40	2		Fighter
BL-133	10.03.40	3		Fighter
BL-140	11.03.40	1*		

* Bomb aimer shot, the plane did not crash.

PARTS FROM YUGOSLAVIA & POLAND

During the Continuation War, spare parts and other material for Mercuries and Blenheim were not available from Great Britain. However, it was discovered that there were a lot of complete engines and spares in Warsaw and also some other places governed by the Germans. But a great deal of bureaucracy had to be overcome before we got permission to buy what the Finns needed.

Yugoslavia was occupied by the Germans in April 1941. The following August, the Finns were informed by the Germans that it was possible to buy parts for the Blenheim from the Ikarus factory. Ikarus had obtained a licence to build Blenheim and they had completed several planes before the German invasion. This time, everything went well and a deal was signed in October 1941. In addition to bigger parts such as wings and fuselages, steel, rivets, etc. were also obtained. An important acquisition was the drawings and tools for the Blenheim Mk.IV.

The "Yugoslav Connection" was significant to our Air Force. Without it we could not have manufactured the Series V and VI Blenheim.

The Blenheim was the first twin-engined aircraft to be built by Valtion Lentokonetehtäs. It was also the biggest and the most modern. Much work was needed to gather skilled workers from the war front to the factory. The British and Finnish Blenheim were both of the same quality.

FINNISH-BUILT BLENHEIMS

Series II, 15 Mk.I aircraft; BL-146-160; taken on service 14.07.41-15.01.42

Series V, 30 Mk.I aircraft, BL-161-190; taken on service 1943

Series VI, 10 Mk.IV aircraft, BL-196-205; taken on service 1944

The Finnish pilots liked both the short-nosed (Mk.I) and long-nosed (Mk.IV) Blenheim. They were easy to fly and had good maneuverability. They were also sturdy. After the Winter War when the enemy fighters were faster than the Blenheim, the escaping bombers often dived down for safety and the speed was higher than the manuals permitted. To fly up and down hills at 2-3 meters height was possible because of the excellent view from the cockpit and the excellent flying characteristics of the aircraft. The long-nosed version was slightly more stable, an advantage during bombing missions.

There is a complete Blenheim Mk.IV, however, not in flying condition, at the Keski-Suomen Ilmailumuseo. This aircraft, BL-200, weathered several years on a pedestal as a monument, but in the 1970s it was salvaged for the museum. This Blenheim was manufactured in Finland and it contains parts obtained from Yugoslavia.

FINNISH BLENHEIMS AFTER THE WINTER WAR

During the Continuation War, 42 Finnish Blenheim were destroyed, 94 crew members killed, and 8 wounded. The Lapland War destroyed four more Blenheim and two crew members were wounded. The toll for the whole of WWII was 61 Blenheim destroyed with 124 crew members dead and 15 wounded. There were more wounded but these 15 were connected to the total destruction of the aircraft.

AIR VICTORIES BY BLENHEIMS DURING THE CONTINUATION WAR

Date	Place	Plane	Gunner	Victim
02.07.41	Valkjärvi	BL-115	Pohja	I-16
18.07.41	Vieljärvi	BL-141	Rimpivaara	I-16
21.07.41	Petroskoi	BL-137	Räty	I-16

During the Continuation War, the photo-reconnaissance and mapping mission proved even more important than during the Winter War. One of the top teams was pilot E. Ahtiainen, navigator L. Aijo, and gunner Y. Hammaren, who operated the camera. Their aircraft was BL-129 which survived the war but was scrapped in the late 1940s. The Peace Treaty stipulated that most of the remaining bombers had to be destroyed and only a few were left with dismantled bomb systems.

When introduced in 1936, the Bristol Blenheim was a very modern aircraft with a very high standard of performance. However, after only five years, it was regarded as a totally outmoded, slow, and unsafe aircraft for the main battle fronts of WWII. In Finland, the situation was somewhat similar, but our pilots continued to operate Blenheim successfully. During the Winter War, we did not have any other purpose-built bombers. Later we got Dorniers, Junkers, Tupolevs, etc., but even so the vast majority of our bomber force consisted of the dependable Bristol Blenheim.

This article is based on the following references: BRISTOL BLENHEIM, Keskinen, Stenman, & Niska; BRISTOL BLENHEIM: TAITOA JA TEKNIKKAA, Marttila; TALVISOTA ILMASSA, Pajari.

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FLYGFLOTTILJ 19

THE SWEDISH VOLUNTEER AIR UNIT

After the outbreak of the Winter War, a voluntary air detachment was formed in Sweden with the aim of operating in Northern Finland in support of the Finnish Air Force. The desire of the Swedes to help Finland was based on the the good relationships between the Swedes and Finns. Help had also earlier been given by Sweden during the Finnish War of Independence in 1918. Also there were many personal contacts between Finnish and Swedish pilots.

The detachment, first named F 101 and later (on 9 January 1940) F 19, consisted mainly of equipment and personnel from the Swedish Air Force Regiments F 4 and F 8. The ground personnel arriving in Northern Finland (Kemi) before the end of 1939. In the beginning, 15-20% of the personnel were ill due to the cold weather (common colds and frost bite).

On 10 January, the flying units landed at Veitsiluoto. At that time the composition of Flygflottilj 19 was as follows: Commander of the Regiment, Maj. H. Beckhammar. Fighter Flight, Capt. A. Soderberg with 12 Gloster Gladiators. Bomber Flight, Lt. P. Sterner, with 4 Hawker Harts. The total complement was about 250 men).

It is worth mentioning that Gladiators represented about one-third of the Swedish Air Force fighter equipment. However, the Swedes had ordered 120 Republic EP-106's (export version of Seversky P-35), but only 60 were actually delivered.

THE SWEDES GO TO FINLAND'S AID

A detailed description of the first day of F 19's activities is included to illustrate the circumstances under which the operations were conducted.

On 12 January 1940, F 19 was already fully engaged in operations. The first reconnaissance flight of the morning was flown over the Kemijarvi-Salla area. Then, F 19 was ordered to attack motorized Soviet columns advancing on Salmijarvi. At 0900, 8 Gladiators flew from Kemi base to Olkkajarvi, OSKAR-base, where the planes were refueled for an escort mission. Because of the very cold weather, only 4 Gladiators could be restarted at 1250. Lt. Sterner led a formation of four Harts escorted by the four Gladiators to Salmijarvi, where the Soviet columns were bombed by the Harts and strafed by Gladiators.

After that, the air base at Markajarvi was attacked. The Soviets were "awake" and the Swedes were greeted with a/a fire and they saw fighters taking off from the frozen lake. Lt. Sterner and 2nd Lt. Jung scored hits on the barracks and the head quarter building. One Soviet I-15bis fighter was destroyed attempting to take off and two others were destroyed on ice. Only two I-15bis fighters take off successfully; one was destroyed in a dog fight by 2nd Lt. Jacobi who shoot it off the tail of an another Gladiator.

After the bombardment, two Harts, piloted by Lt. Sterner and 2nd Lt. Jung, collided in the air, probably because a control wire on one of the aircraft had been severed by enemy a/a fire. The engine of Lt. Jung's Hart broke away and the aircraft crashed to ground tail first. Jung had unfastened his seat belt and he was thrown out from his aircraft and was saved by

the parachute. His navigator, Sgt. Sunsten, did not get out of the aircraft, but he crawled out from under the remains of the crashed aircraft without injury while enemy fighters fired on the crashed Hart. Sterner's Hart also crashed, but he was able to escape by parachute. His navigator, Lt. Zachau, however, died in the crash.

After the accident, the remaining two Harts got separated from each other. While it was flying south, one was attacked by three enemy I-15bis fighters. The pilot, 2nd Lt. Fanstrom, dived down to 50 meter, but the Hart's engine started to give trouble and he had to make a forced landing on the ice in a swamp. Their aircraft was severely damaged by the fire from the fighter. For example, the upper wing was loose because the supports had been broken by the gun fire. Pilot Fanstrom and navigator Hanson escaped into the forest while the fighters strafed the wreck. After a while, they returned to what remained of their Hart and took the skis, which were in the aircraft for just this kind of situations, and they skied back to the Finnish lines.

After one week it was informed that Sunsten was found alive by a Finnish patrol. Sterner and Jung were taken as prisoners of war by Soviets. They returned to Sweden after five months of imprisonment.

GUARDING THE NORTHERN FRONTIER

On 17 January, the Fighter Flight carried out an armed reconnaissance in the Markajarvi area where the Gladiators shot down two I-15bis fighters.

On 23 January, the Fighter Flight attacked the Kairala air base at night with four Gladiators attacking I-15bis fighters on the ground without results worthy of mention. One Gladiator was shot down by the enemy's low-altitude a/a.

On 1 February, the Finnish city of Rovaniemi, in North Finland, was bombed by a wave of 40 Tupolev SB-2's followed by another 8 SB's. A patrol of three Gladiators intercepted the latter and shot down one SB. Another was downed by ground a/a. After one more wave of 26 SB's, F 19 succeeded in fending off all further bombers.

Swedish volunteers had some difficulties with the local Finnish voluntary protective corps. This was because the Swedes wore a different kind of uniform and they lacked knowledge of the Finnish language. The corps were also alerted because of the fear of Soviet 'paratroopers'. The Swedes found it useful to carry a badge hanging from their neck which declared: "I am a volunteer. I am a Swede in the Finnish Air Force. I am a Finnish pilot but I speak only Swedish." After it was noticed that the northern town were less bombed because of the F 19's Gladiators, the Swedish pilots gained more respect.

During February, the Bomber Flight carried out a number of disturbance bombings with its two Harts.

On 21 February, a Gladiator patrol encountered a SB squadron above Rovaniemi and shot down one and damaged another.

On 7 March, one SB was downed out of a detachment of three found above Vaala.

On 10 March, one Gladiator attacked six TB-3's (gigantic four engined bombers) approaching Rovaniemi and destroyed one of them near Kemijärvi. On this day, the Regiment lost one Gladiator in an accident.

On 11 March, F 19 carried out its last wartime mission; bombing a truck column at Markajärvi, setting one tanker ablaze.

At the end of Winter War, on 13 March 1940, F 19 had nine Gladiators and two Harts in working order.

On 29 March, one half of F 19 returned to Sweden and the rest returned the next day.

SUMMARY

The value of F 19 to the Finns during the Winter War can be summarized as follows:

F 19 operated in the area of Northern Finland where there were no Finnish Air Force aircraft. The area north of Oulu was intentionally left empty so that all three FinnAF regiments could remain in Southern and Eastern Finland to protect the main troops and cities. As a result, the enemy aircraft were left to operate without any interference in North Finland. F 19 filled this gap even though they had only a small number of planes.

They also carried out reconnaissance flights to get information on enemy ground forces, especially in Salla area. This was important for the Finnish head quarters.

In its first military action, on 12 January, F 19 helped to halt the advance of Soviet troops and the later night bombing raids help to 'freeze' the frontline.

F 19 helped to keep the maintenance route open between Sweden and Finland at Tornio. Kemi and Tornio were never attacked by Soviet bombers and Oulu was not attacked after 21 January.

Finally, because F 19 got nearly all its ammunition, gasoline, and other maintenance from Sweden, it was self supporting and did not put a strain on Finnish resources.

STATISTICS

Between 10 January and 13 March 1940, F 19 scored 8 victories in the air and destroying three aircraft on the ground against the loss of three Gladiators and two Harts. Three Swedish pilots were killed and two were taken P.O.W.

F19 carried out 560 missions (transport missions not included) during 60 flight days totally 600 hours of flight time. For comparison, the Finnish Air Force carried out 5870 missions totally 6300 hours in 105 war days starting with 118 aircraft.

The Soviet Air Force carried out 84,000 flights over the Winter-War front (source: I.G. Inozemtsev: Leningrad under Wings). The total number of Soviet Air Force aircraft at the outbreak of Winter War has been estimated to be 5000-5500, of which 800 were on the Finnish front, and of these 170 were on the Northern Finland front (R. Pajari: Winter War in the Air.) As a curiosity, it can be mentioned that Soviet sources mention that they used 45 complete air radar stations (type Rus-1) in the Winter War. (The development of radar started in Soviet Union in 1934.)

Bombs dropped by F 19: 28 50-kg mines; 135 12-kg explosive bombs; 22 12-kg fire bombs. Total of 3.3 tons of bombs. (The Finnish Air Force dropped 208 tons of bombs in the Winter War.)

Usage of ammunition: F 19 - 61,000 rounds (8 mm); FinnAF - 850,000 rounds.

WINTER WAR

DECEMBER 1939

MARCH 1940

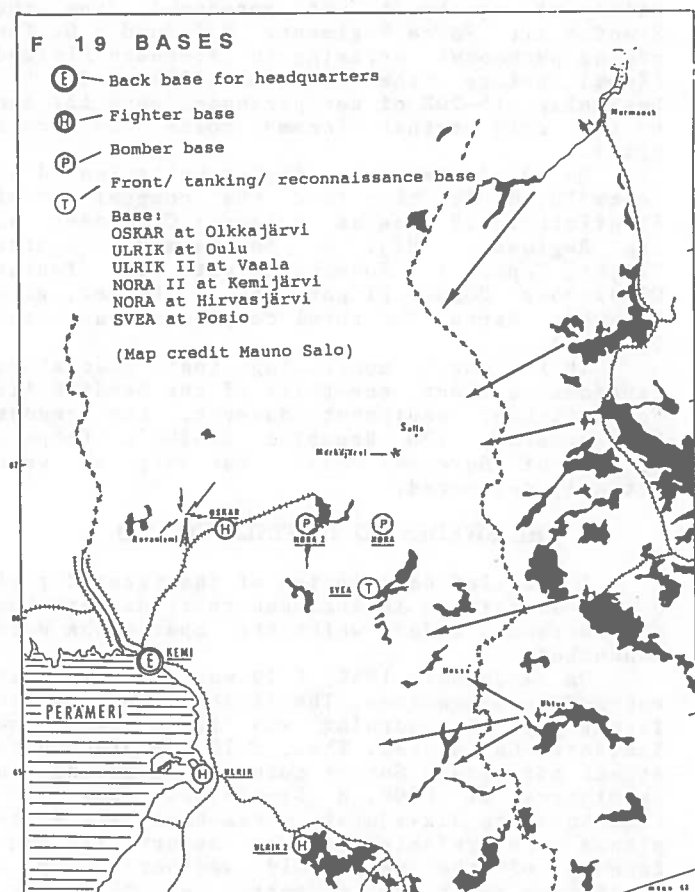


F 19 BASES

- (E) — Back base for headquarters
- (H) — Fighter base
- (P) — Bomber base
- (T) — Front/ tanking/ reconnaissance base

Base:
OSKAR at Olkkajärvi
ULRIK at Oulu
ULRIK II at Vaala
NORA II at Kemijärvi
NORA at Hirvasjärvi
SVEA at Posio

(Map credit Mauno Salo)



REFERENCES

This article is based on the data from M. Salos' articles in Suomen Siivet magazine 4/1969 and 1/1970; R. Pajari's book Talvisota Ilmassa (Winter War in the Air) and the following books:

Keskinen, Stenman, Niska: Finnish Air Force History, Part 12; British Fighters. Tietoteos 1985 (available from: Tietoteos, PL 40, SF-02211 Espoo 21, Finland)

Falk: En Kronika om F19 (A Chronicle on F19) (available from Swedish Aviation History Association, P.O.Box 308, S-10124 Stockholm, Sweden)

IPMS-Mallari No.32 (Available as photocopies from IPMS-Finland, PL 798, SF-00101 Helsinki, Finland, Price US\$ 2.00 cash.) A subscription to Mallari Magazine for 1990 (six issues) is available at US\$ 20.00 cash.

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CAMOUFLAGE & MARKINGS OF THE AIRCRAFT OF F19

The aircraft brought to Finland by the Swedish volunteers during the Winter War were 12 J8 Gloster Gladiators, 4 B4A Swedish-built Hawker Hart light bombers, a Junkers F13, a Waco ZQC-6, and a Tigerschwalbe RK-26. The J8s came from Flygflottilj 8 (Barkarby) and the B4As from Flygflottilj 4 (Frösön).

The J8 Gladiators carried the basic Swedish color scheme of olive green (olivgrön) FS34097 upper surfaces and light blue grey (ljust blågrå) FS36473/36475 lower surfaces with a sharp color separation running along the middle of the fuselage. The Swedish national insignia on the fuselage was overpainted with a slightly larger Finnish national insignia consisting of a light blue FS15123 (matt) swastika on a white disk. On the under surfaces of the wing, the Swedish national insignia was overpainted with light blue grey and replaced with a large blue swastika with no white background. The national insignia on the upper surface of the wing was overpainted and no markings were applied in their place. All upper surfaces and the entire fuselage was covered with irregular stripes in silver FS17178. The silver was sprayed on with out the use of stencils so that no two aircraft had the same pattern. All J8s received large (about 1-m high) tactical letters painted in yellow on the rudder. The little spinner on the propeller was also painted yellow. In accordance to Swedish regulations, small black serial numbers were painted on the fuselage close to the root of the tailplane.

The B4A Harts probably carried the standard Swedish scheme of olive green over light blue grey. The only known exception was B4A "M" which was delivered to F19 on 15 February 1940 as an attrition replacement. This aircraft (No. 729) was painted as described above but with the addition of irregular patches of light blue grey on the upper and side surfaces. (This color may have been silver, but, in that case, the lower surfaces had to be silver also.) All B4As carried the Finnish national insignia in the same places as described for the J8s, but the tactical letters were black. Unfortunately, only a small number of photos of F19's B4As are available, so a complete description of their markings and camouflage is not possible.

The supporting aircraft were probably silver overall. The RK-26 carried the insignia of the Suomen Ilmavoimat, while the others carried Finnish civil registrations in black, with the Waco having a small Finnish flag on the fin.

Soon after the Winter War ended, in March 1940, F19 moved back to Sweden. Before the return flight, all national insignia were replaced by black disks used as a background for different drawings. Moreover, a "skull with crossed bones" appeared on the fins of all J8s. Some aircraft also carried vertical bars to denote aerial victories achieved during the war. The colors of these bars include white and a darker color which may have been light blue of yellow. One J8, aircraft "F", had "wings" painted under the cockpit, probably in black and white.

The other F19 aircraft types did not carry these decorations, although B4A "M" had the word "HART" painted on the rear port fuselage immediately behind the overpainted national insignia.

APPENDIX I

All J8s used by F19 were purchased in 1937. They were powered by Nohab-built Mercury VIS.2 engines rated at 646 hp and had many minor changes such as FR III wireless, m/37 gunsights, and skis built by ASJA (AB Svenska Järnvägsverkstadernas Aeroplanavdelning). Armament consisted of four m/22F 8-mm machine guns.

Serial	Code	Notes
271	A	Code in F8: 8-41; in service since 30.03.40; damaged in accident and sent back to Sweden 10.04.40; code 10-18 and w/o 28.02.41; 245 hr 20 min.
281*	B	Code in F8: 8-51; in service since 10.01.40; shot down over Märkäjärvi 23.01.40 with pilot fänr. J. Sjöqvist killed; w/o 16.09.40; 110 hr 30 min. * May be serial 282.
275	C	Code in F8: 8-45; in service since 10.01.40; returned to Sweden 30.03.40; w/o 04.09.45; 816 hr.
274	D	Code in F8: 8-44; in service since 10.01.40; crashed landed at Veitsiluoto 10.03.40 killing pilot löft. A. Hildinger; w/o 16.09.40; 155 hr 35 min.
282*	E	Code in F8: 8-52; in service since 10.01.40; crash landed during snow storm 20.02.40; w/o 16.09.40; 116 hr 15 min. * May be serial 281.
284	F	Code in F8: 8-54; in service since 10.01.40; returned to Sweden 30.03.40; heavily damaged in accident 04.02.41; w/o 28.02.41 with code 10-26; 255 hr 20 min.
279	G	Code in F8: unknown; in service since 10.01.40; returned to Sweden 30.03.40; no other information known.
278	H	Code in F8: 8-48; in service since 10.01.40; returned to Sweden 30.03.40; coded 10-23 and later 16-83; w/o 20.06.45; 699 hr.
268*	I	Code in F8: 8-38; in service since 10.01.40; returned to Sweden in March 1940 (aboard ferry boat); w/o due to accident 29.03.41; 238 hr 30 min. * May be 283.
283*	J	Code in F8: 8-53; in service since 10.01.40; returned to Sweden in March 1940 (aboard ferry boat); coded later 10-25; w/o 13.12.46; 655 hr. * May be 268.
285	K	Code in F8: 8-55; in service since 10.01.40; accident on 05.02.40; returned to Sweden 29.03.40; crashed 05.02.41; w/o 28.02.41; 337 hr 15 min.
276	L	Code in F8: 8-46; in service since 10.01.40; returned to Sweden 30.03.40; damaged 20.02.45; w/o 29.03.45; 771 hr.

APPENDIX II

All the B4As used by F19 were built by ASJA or CVM. They were powered by Nohab-built Pegasus IU2 radial engines rated at 550 hp.

Serial	Code	Notes
730	R	Code in F4: 4-30; in service since 10.01.40; returned to Sweden 30.03.40; coded 6-30; w/o 19.07.40; 367 hr 15 min.
744*	X	Code in F4: 4-44; in service since 10.01.40; mid-air collision with B4A "Y" 12.01.40 in Märkäjärvi area, pilot fänr. A. Jung taken prisoner, gunner sgt. B. Sundsten reached Finnish lines; w/o 16.09.40; 185 hr 50 min. * May be 718.
718*	Y	Code in F4: 4-18; in service since 10.01.40; collided with B4A "X"; pilot ltn. P. Sterner taken prisoner; gunner ltn. A. Zachau killed; w/o 16.09.40; 389 hr 35 min. * May be 744.
732	Z	Code in F4: 4-32; in service since 10.01.40; downed 12.01.40 south of Märkäjärvi; fänr. F. Färnström and sgt. T. Hansson reached Finnish lines; w/o 16.09.40; 219 hr 15 min.
729	M	Code in F4: 4-29; in service since 15.02.40; returned to Sweden 30.03.40; coded 6-20; w/o 06.09.44; 828 hr.

APPENDIX III

All the supporting aircraft with F19 were civil aircraft before the Winter War.

- Junkers F 13 Reg. OH-SUP; ex-SE-ACK (ABA "Gästrikland"; gift of Langenskiöld and Ekman families; Bjärka-Säby; in service since 10.01.40; a gift to-Finnish AF 29.05.40; coded JU-120; used with IlmavE., LeLv 44, IlmavVK. PLeLv 43 and IlmavVP until 1947.
- Waco ZQC 6 Reg. OH-SLA; ex-SE-AHM (Björkvallsflyg "Imbrim"); gift of Langenskiöld and Ekman families; in service since 02.02.40; returned to Sweden 30.03.40; probably taken over by Swedish AF and coded Tp 8A.
- Tigerschwalbe RK 26 No registration; ex-SE-ADK; owned by L. Hemminger; in service 09.02.40; returned to Sweden 29.03.40.

DRAWINGS

- A. B4A (Hawker Hart) No. 729, "M", in the colors of F19.
- B. J8 (Gloster Gladiator Mk I) No. 271, code 842; in Swedish AF colors.
- C. The same aircraft in F19; coded "A"; early 1940.
- D. J8 No. 284 "P" of F19. Note enlarged stencilled serial number.
- E. The same aircraft in March 1940. Note the "wings" hand painted on both sides of the fuselage immediately under the cockpit.
- F. Enlarged emblem that covered the Finnish national insignia on both sides of the fuselage.
- G. An emblem that was painted immediately behind the painted-out national insignia on both sides of the fuselage.
- H. An emblem painted on both sides of the fin of aircraft "E". Skull and crossed bones are

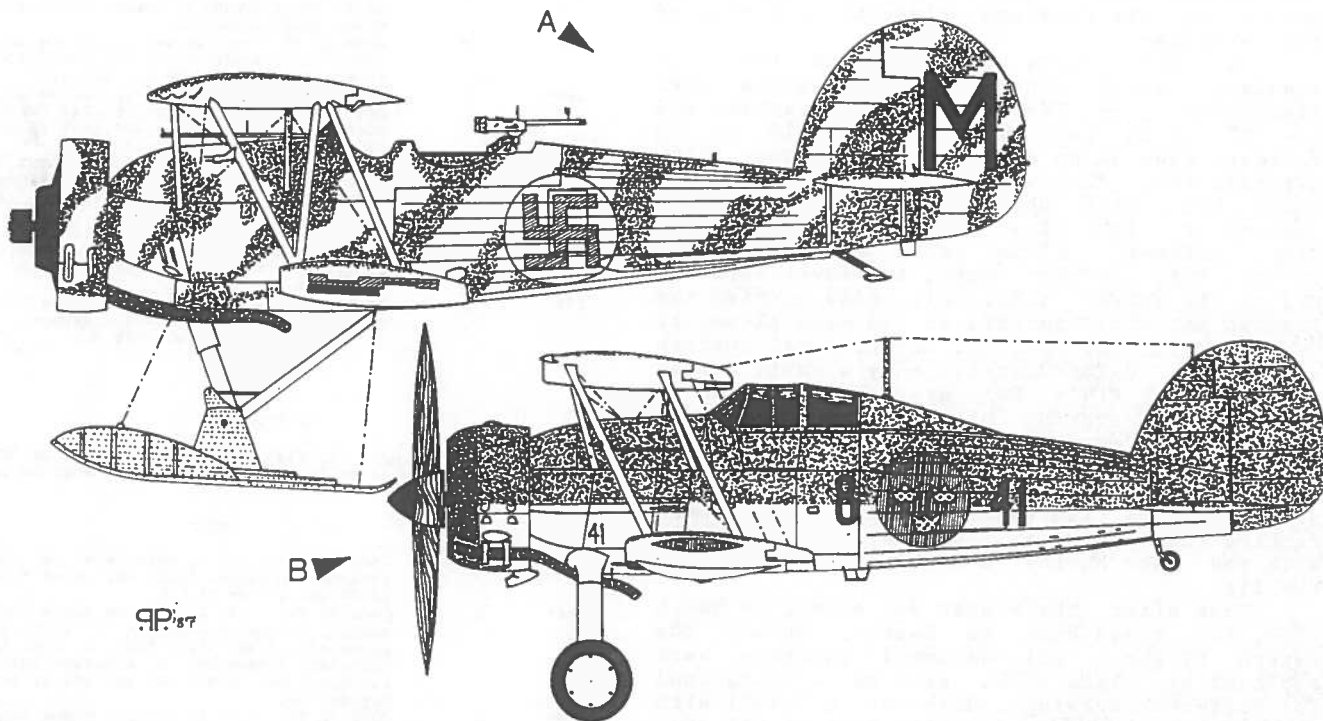
- probably white, while the vertical bar (denoting an aerial victory) is distinctly darker and may be either grey or blue.
- I. J8 No. 278 "H" of F19.
- J. Junkers F 13 OH-SUO of F19. Note hand-painted registration on the fuselage. Aircraft was probably silver overall and the view of the nose is conjectural.
- K. The same machine in the colors of the Finnish AF (spring 1942) coded JU-120. Note winter-style camouflage and lack of cowling.

FOOTNOTE: Emblems shown in Figs. F, G, H, and the "wings" on J8 "F" were hand painted, so it is natural that there are some differences between those on opposite sides of the fuselage. Additionally, the emblem shown in Fig. H is conjectural because of the poor quality of the available photos.

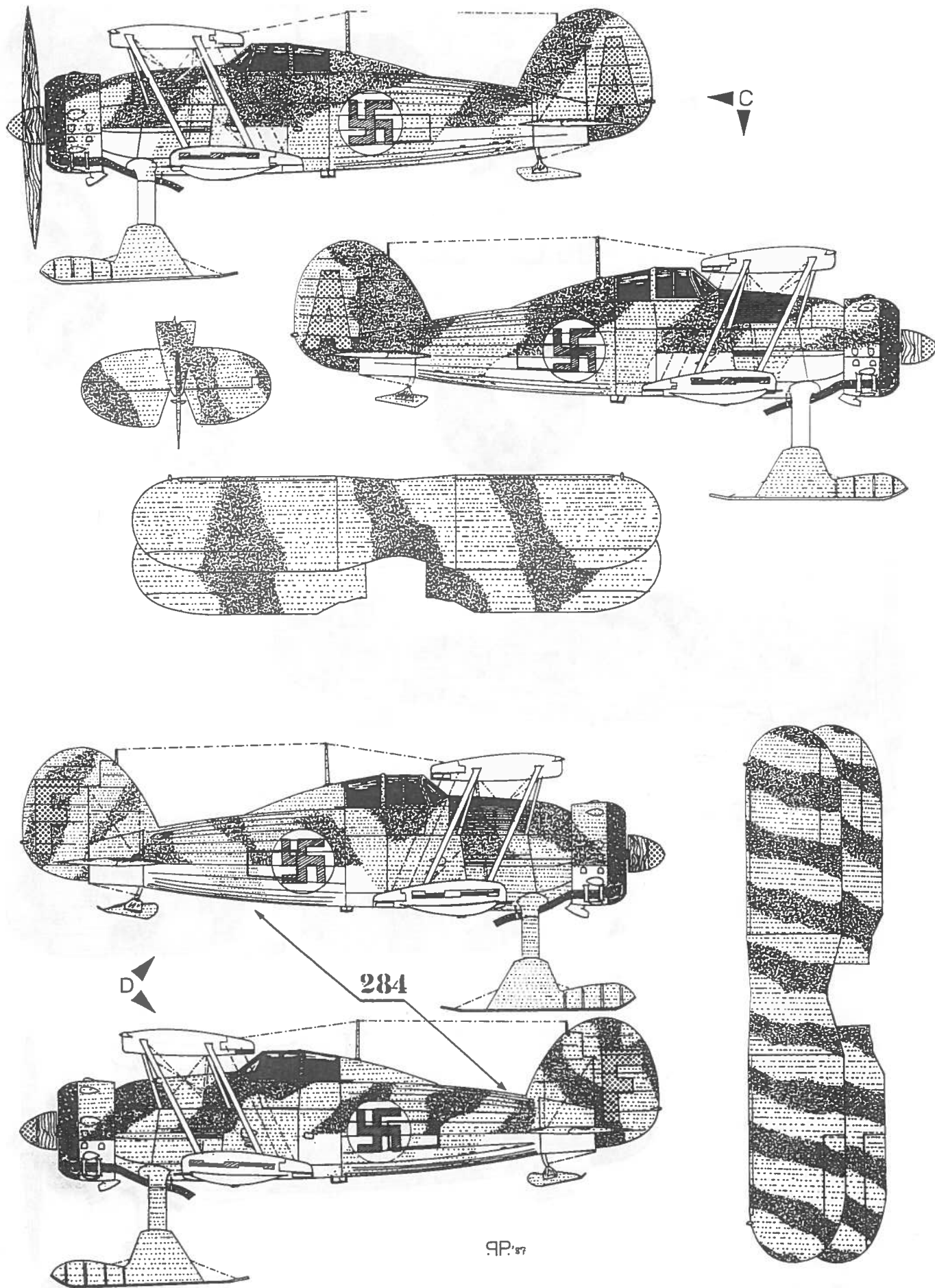
Although Swedish and Finnish sources were used in preparing this article, there are still some questions concerning F19 aircraft colors. All the existing photos were taken under the winter sun and are thus subject to misinterpretations. Were the struts on the J8s silver or light blue grey? Were the lower surfaces of the J8s wings silver? What type of engine did the F 13 have? Can anyone help?

ACKNOWLEDGMENTS: I would like to thank Janusz Ledwoch for his help and support while preparing this article.

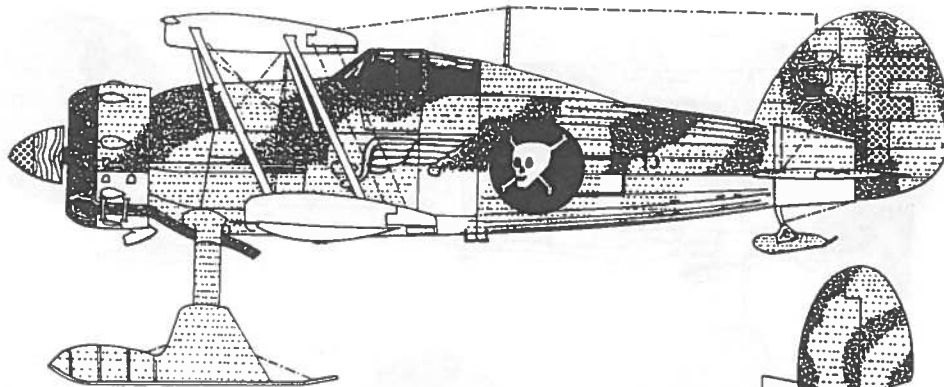
Paweł Przymusiaka (SAFCH #801), ul. Długosza 8/27. 01-174 Warszawa, POLAND.



markings only



E



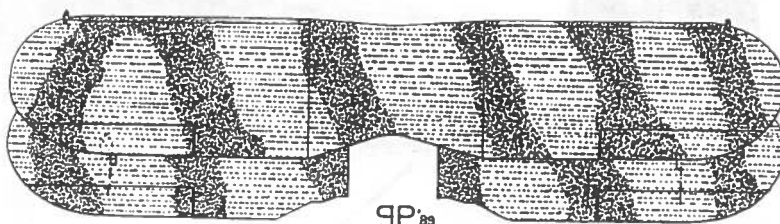
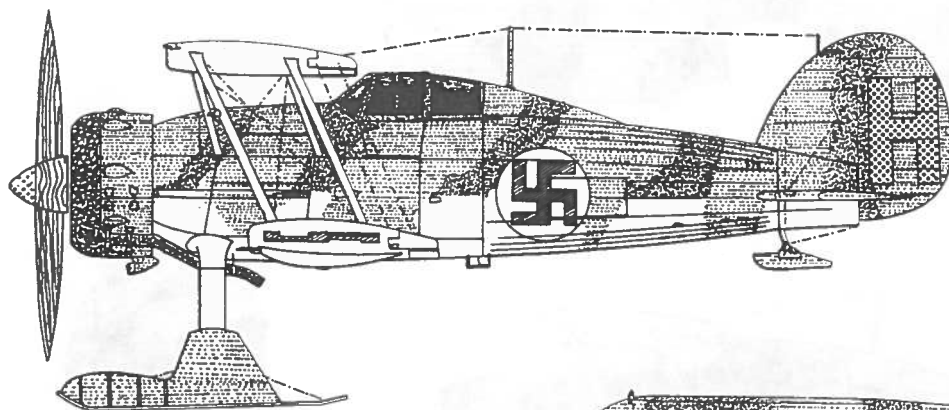
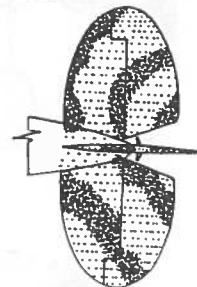
G
★
13



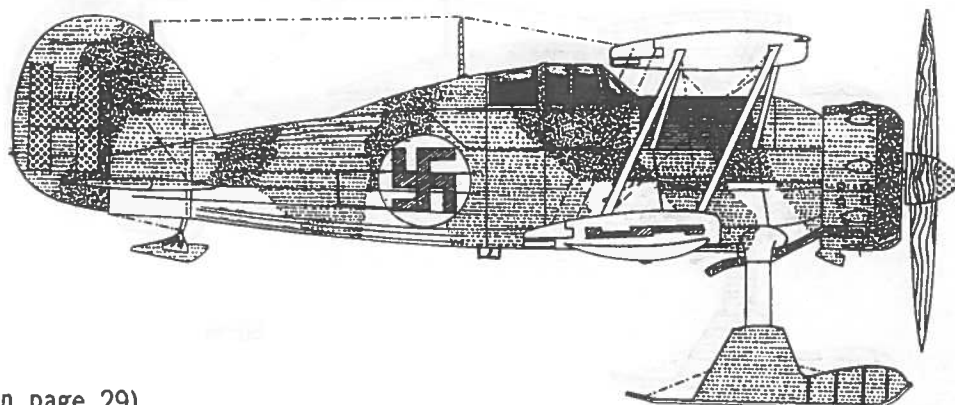
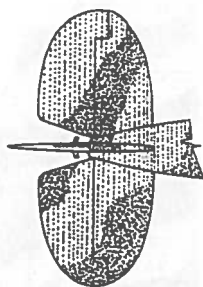
F



H



9P'89

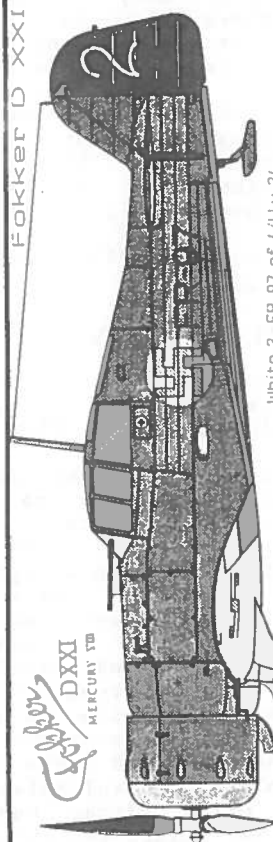


(Drawings continue on page 29)

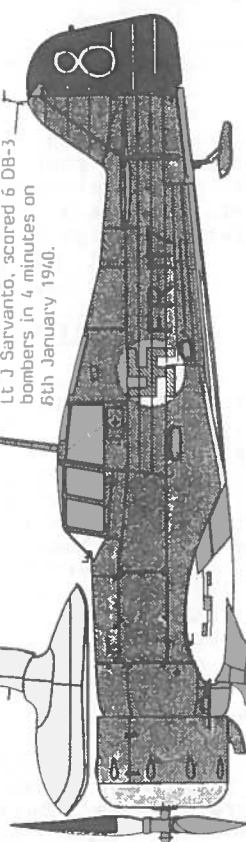
WINTER WAR FOKKER D.XXI

Fokker D XXI In Finnish Air Force Service 1939-42.

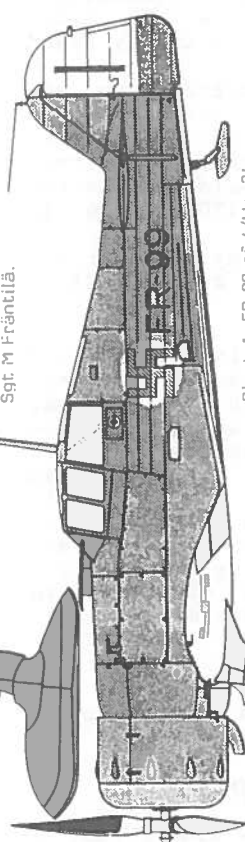
INSCALE 72 production
PL 54
00411 Helsinki
FINLAND



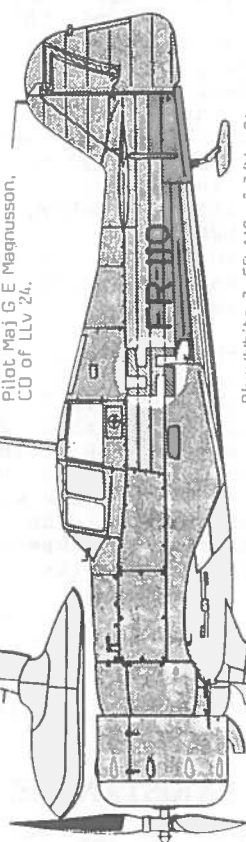
White 2, FR-97 of 4/LLv 24.
Olive green/light grey scheme
with black rudder. Pilot
Lt J Sarvanto, scored 6 DB-3
bombers in 4 minutes on
5th January 1940.



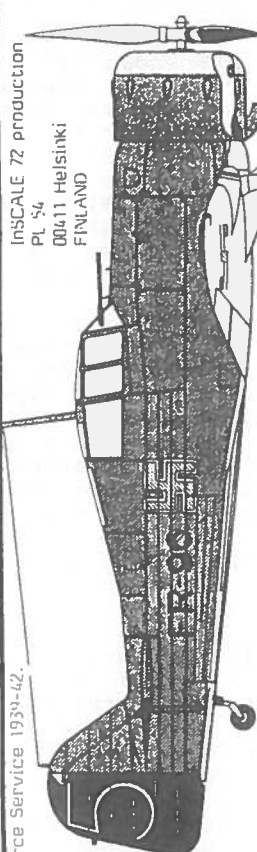
White 8. FR-117 of 2/LLV 24.
Olive green/light grey scheme
with black rudder. Pilot
Sgt. M Fräntilä.



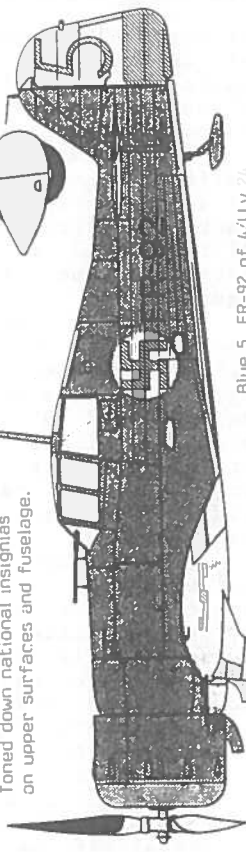
Black 1. FR-99 of 4/LLV 24.
Olive green/light grey scheme
with partly white rudder.
Pilot Maj G E Magnusson,
CO of LLV24.



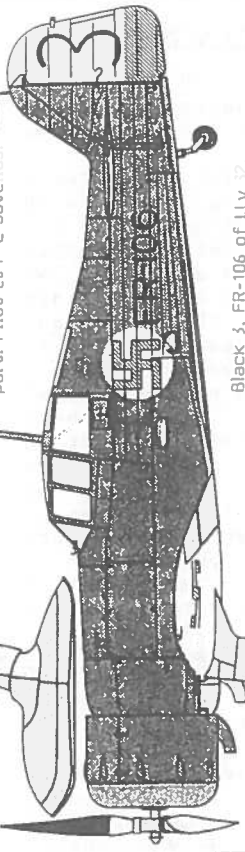
Blue/white 7, FR-10 of 3/11/24.
Olive green/light grey scheme.
4 1/2 kill markings on right
hand side fin. Pilot
WU V Pvořas.



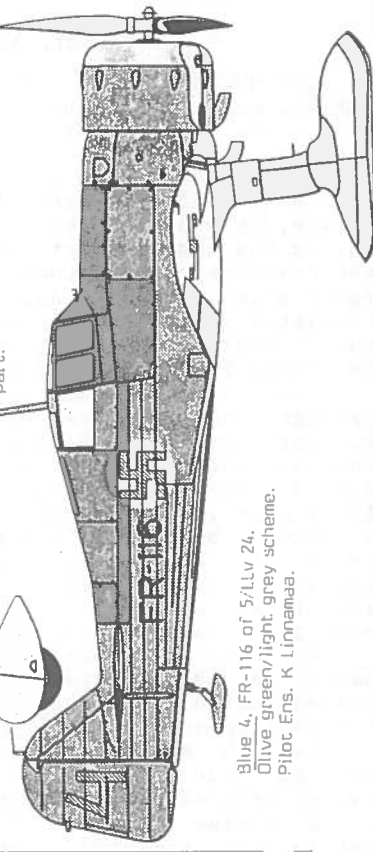
white 5, FR-9% of Lentorykmentti
2 (Air wing 2). Olive green/
light grey scheme with black rudder.
Toned down national insignias
on upper surfaces and fuselage.



Blue 5, FR-92 of 4/LLv 24.
Olive green/light grey scheme.
Rudder white with blue lower
part. Pilot Lt P-E Sovellius.



Black 3, FR-106 of LLv 32.
Olive green/light grey scheme.
White rudder with blue lower
part.



Blue 4. FR-116 of 5/LLv 24.
Olive green/light grey scheme.
Pilot Ens. K Linnamaa.

[illegible]

1. **התאחדות המורים** – תאגיד חינוכי, המייצג את המורים והמורות, המעסיקים במערכת החינוך, ופועל למען טובתם.

SWEDISH MUSTANGS

J26 MUSTANG: ETT JAKTPLAN OCH EN ERA I SVERIGE, Leif Hellstrom. 256 pages 7, 17.5 cm by 24.5 cm, 286 photos (30 in color), 12 color profiles, hardbound.

SAFO readers who enjoyed Lief Hellstrom's article in #50 on the Mustang in Swedish service, should be even more pleased by his book on the same subject. Don't let the Swedish text discourage you, there is an excellent 24-page English summary, all photo captions are translated into English, as are the Tables and other miscellaneous sections. However, it is the photos that make this book special.

The book covers all aspects of the Swedish Mustangs from their use in the USAAF, their ten-year service in Sweden, their transfer to other air forces, and finally to their civilian careers. The photos are well reproduced on glossy paper. My only complaint is that some of the color photos are "washed out"; whether the result of the reproduction process or a limitation of the color film in use at that time, I can not say. On the other hand, the color profiles are excellent.

For the modeler, there is an entire chapter on the paintings and markings of the Swedish Mustangs and many photos of unusual and little-known unit and individual insignia.

Swedish Mustangs transferred to other small air forces get good coverage with a chapter devoted to each. Israel is represented by 12 photos (2 in color) and one color profile, the Dominican Republic by 9 photos (3 in color) and one color profile, Nicaragua by 1 color photo and one color profile, and El Salvador by one color profile.

This is not a book you'll look at once and put away; I predict that the owners of this book will constantly refer to it, both for pleasure and for specific information. Therefore, it is good that it is well made, consisting of high-quality paper sturdily bound between strong cover.

This book is highly recommended to all aviation enthusiasts who are not confirmed Mustang-phobes. Aerofax and Midland Counties (both SAFCH supporters) have expressed interest in carrying this book. It is available from the publisher: Allt om Hobby, Box 42006, 126 12 Stockholm, SWEDEN.

You don't have to take my word for how good this book is, read what another SAFCH member has to say.

"As with all things made in Sweden, this delightful study of the Swedish P51 Mustang evokes thought of 'tidy'. In 256 packed pages, including no fewer than 200 black-and-white photos, more than 30 color photos, and 12 excellent color profiles, Leif Hellstrom has turned out the best work we are ever likely to see on this subject. The photo selection can only be described as superb, and both modelers and historians will relish them as they would a good meal. An appendix, giving the complete history of each Swedish-operated Mustang, incorporates every know scrap of data. This book has something for everybody and it is highly recommended."

Daniel P. Hagedorn (SAFCH #394), PO Box 682, Centreville, VA 22020.

PAKISTAN AIR FORCE

THE STORY OF THE PAKISTAN AIR FORCE, no author given. 24.5 cm by 18 cm, 719 pages,

hardbound. 230 b/w photos, 21 color photos, as well as numerous paintings, drawings, maps, charts, and tables. Shaleen Foundation, Islamabad. £ 39.95 from Midland Counties. [Editor's note: Also available from Aerofax.]

Those expecting a dry, dull book of indifferent quality, glorifying the PAF, are in for a nice surprise. This is a well-balanced, sometimes surprisingly frank, account of the PAF from 1947 to 1987. The book is well-researched and full of dates, names, and figures.

The bulk of the book is narrative, describing the history from every conceivable angle, with special chapters on maintenance, logistics, training, etc. As can be expected, the 1965 and 1971 wars are described in great detail; both are given blow-by-blow coverage, interspaced with first-hand accounts and extracts from reports. Not only the PAF triumphs, but also their blunders and losses are described.

Some 85 pages are allocated to an aircraft review, giving some basic information on each type ever to serve with the PAF. The periods of use and quantities are usually given, but there are no details on serial numbers or paint schemes. There is also a lot of interesting background information on the purchases, where the British are criticized for dumping unwanted aircraft on the unwilling Pakistanis. The story of how the PAF was forced into buying 81 Bristol Freighters is a case in point.

The last 200 or so pages give histories of individual PAF bases and units, as well as biographies and lists of key personnel, etc. What lets the book down are the illustrations, particularly the black-and-white ones. Many are of poor quality and less than half are of aircraft. The early types get virtually no coverage. This is partly compensated for by 45 full-age "action" paintings, many of which are very detailed. But there are one or two astonishing mistakes, like the painting of two PAF Spitfires: a type which never served with the Pakistan Air Force!

All-in-all, this book is recommended to anyone with the slightest interest in the subject. The short-comings in the illustrations have been balanced against the well-written text, and as a whole the book is worth the relatively high price.

Daniel P. Hagedorn (SAFCH #394), PO Box 682, Centreville, VA 22020.

WORLD NAVAL AVIATION

WORLD NAVAL AVIATION, Paul Beaver, Jane's Information Group Limited, Sentinel House, 163 Brighton Road, Coulsdon, Surrey CR3 2NX, England, 1989.

In his introductory notes, the author states "Some nations appear to have no naval aviation at all, even though they have coastlines. They could obviously use any aircraft to maritime patrol but without special modifications they would not be viable for anything other than daylight, clear weather search and have therefore not been included in this study." Had the author limited himself to his own guidelines, this would probably have been a much more satisfactory guide to world naval aviation. As it is, for reasons that are not clear, the author has included whole pages in this book to such unlikely "naval aviation" operators as Belize, Costa Rica, Guyana, Honduras, Panama, Papua New Guinea and others.

The study is alphabetically arranged, by

country, and is further tabulated in each country as follows: Organizations, Organizational Structure, Command Structure, Air-capable Ships, Shore Bases, Embarked Aircraft, Shore-based Aircraft, Recent Operations, Typical Deployments, Weapons Systems, Personnel, and Remarks. The photo support is disappointing, consisting mainly of manufacturer's photos.

Of greatest concern, however, are the numerous errors in fact. For instance, the Argentine Naval Air Arm is credited with having not fewer than 24 "embarked" Sea King helicopters; a total that is at enormous variance with actual original (let alone current) totals. For some reason, the author elects to include with "Shore-based Aircraft" all of the major types of the Fuerza Aerea Argentina.

The Chilean Naval Air Arm is credited with 9 to 11 ENEAR/CASA A-36 Halcon jets, a fact that is in need of substantiation. This section does, however, include a nice selection of views, including Alouette III s/n 66, an in-air shot of a camouflaged EMB-111AN, an EMB-110 s/n 108, and an in-air of a Pilatus PC-7 s/n 216, this last displaying the unit insignia of VT-4.

The Colombian chapter has a strange tail-on view of an MBB Bo-105 aboard an FS 1500 type frigate, and, according to the author, four FAC A-37B's are dedicated to Naval support activities, which, if true, is a very interesting development. Costa Rica's Civil Guard is included, although it consumes less than half a page and lists only three Cessna 337 Skymasters and no other types. Cuba is quite properly included in this survey, but is not credited with having a Naval air arm. Instead, 25 Mi-4 and 12 Mi-14 'Haze A' FAR helicopters are said to be dedicated to maritime support.

The Dominican Air Force, to read this account, consists of but two Alouette III's and 10 Cessna T-41D's - quite ignoring the A-37's operated by this island nation, as well as a multitude of other types. The Ecuadorean Naval Aviation is fairly well represented, although one might question whether the Cessna 320E is still in service, and the page is illustrated with an FAE Alouette III s/n 977.

The Peruvian Naval Air Service is still credited with operating a Fokker F-27M, although both aircraft of this type have been lost for some time now; s/n 560 being illustrated.

Finally, Uruguay's Navy is credited with operating not fewer than 18 "North American T288 Fennec" and three Bell 222's (neither total being right, and the Fennec version is more likely the T-28S), while Venezuela has once again been credited with four Grumman HU16 Albatross aircraft which is one of those myths that has gained legitimacy through constant repetition!

This book can be recommended as a contemporary survey, but only with the caveat that it should not be viewed as definitive nor comprehensive.

Daniel P. Hagedorn (SAFCH #394), PO Box 682, Centreville, VA 22020.

GRUMMAN AIRCRAFT

GRUMMAN AIRCRAFT SINCE 1929, Rene Francillon. 21.5 cm by 14 cm, 608 pages, 452 photos, 55 general arrangement drawings. Hardbound.

The names of the author and the publisher

alone should be sufficient to sell this book. The book follows the successful Putnam format with a type-by-type coverage of all Grumman-built aircraft from the barrel-shaped XFF-1 to the swept-forward X-29 and includes an appendix on the historically-important Apollo Lunar Module. Each type is given a chapter, varying from 34 pages for the Avenger to 2 pages for the Grumman American GA-7, consisting of sections on Development, Production History, Service History, Odds and Mods, and Civil Use. The text is complimented by many photos, at least one general arrangement drawing, and tables listing number built by subtype, serial numbers, and technical specifications.

The small-air-force enthusiast will find much of interest. Separate sub-sections are devoted to each foreign user and this includes purchases from secondary sources not just those obtained directly from Grumman. (The lack of such information has marred many of the earlier Putnam books.) For example, we learn that the Hellcat was used by Paraguay as well as Argentina, France, United Kingdom, and Uruguay.

The small air forces also get good photo coverage: Canadian & Spanish FiFi's; Argentine Ducks; Peruvian, Swedish, French, & Portuguese Geese; British Wildcats; Canadian, French, Japanese, & British Avengers; French & British Hellcats; French, Vietnamese, and Thai Bearcats; West German, Indonesian, Japanese, Mexican, Philippine, & Spanish Albatrosses; Argentine Panther; Japanese, Canadian, Argentine, Australian, Brazilian, Italian, Dutch, Peruvian, & Turkish Trackers; West German Mohawk; Israeli, Japanese, Singaporean, & Egyptian Hawkeyes; and Iranian Tomcat. How many of these have you modeled?

Dan Hagedorn will be pleased to read that the author has not perpetuated the myth of 4 Albatrosses being used by Venezuelan Navy (see review directly above); on page 308 we learn that "Six unidentified ex-USAF HU-16As are believed to have been operated by the Servicio de Aviacion de la Marina Venezolana for nearly two decades, The last were phased out in 1982."

In summary, another outstanding book from Putnam and one that deserves a place in every aviation historians library.

[Editor's note: Putnam list some great new books for release in 1990, including General Dynamics and their Predecessors: Japanese Aircraft 1910-1941 (my favorite); Parnell Aircraft since 1914; and Aircraft of the Spanish Civil War 1936-39. So save your pennies.]

FINNISH BLENHEIMS

BRISTOL BLENHEIM, TAITOA JA TEKNIKKAA, Jukka Marttila. 21 cm by 25.5 cm, 145 pages, 84 photos, softcover.

Elsewhere in this issue is the authors English-language summary of his book. It would make a nice supplement to the book.

The author's explanation of how he came to write this book is interesting: "As a young boy in 1958, my mother gave me as a Christmas present a small book for boys by the famous Finnish author E. Rekimies. The book told a fictional story of a Blenheim squadron during the war. In 1963 my seven year old daughter, Jonna, found the book among other old things. She read it. Then she read it again. She got tears in her eyes when the Blenheim was destroyed on a frozen swamp, although the men escaped unharmed. Jonna kept talking about the Blenheim. Later we visited the aviation museum

near Helsinki and she noticed the book 'Bristol Blenheim' by Keskinen, Stenman, and Niska. So we had to buy it. During Christmas 1984 I made an arrangement with a Finnish magazine to write an article about the Blenheim and began to gather information and to interview former pilots. Jonna attended every interview. After the article was published, we continued to gather more information. One day I began to write the manuscript for a book and after that there was no alternative other than to put the family money together, register the firm of Blenheim-Publishing, and to publish the book. On page 37 you can see a photo of Jonna next to a Blenheim carburetor."

After an introduction like that, not much more should be needed to convince you to buy this book. Suffice it to say that the book is well produced with the excellent photo reproduction we have come to expect from Finnish publications.

This book can be recommended for anyone interested in the Finnish Air Force or the Bristol Blenheim. It can be obtained from the author for US \$25.00 plus \$10.00 for packing and air mail postage. Send payment in cash (not checks, bank charges run up to \$10) to Blenimi-Publishing, Susitie 10 A 12, SF-00800 Helsinki, FINLAND.

INTRUDERS, PROWLERS, & VIGILANTES

MINIGRAPH 7: GRUMMAN EA-6A INTRUDER & EA6B PROWLER, Jenkins. 56 pages, 8.5 in. by 11 in., softcover.

"Written by Dennis Jenkins, this Minigraph represents the first accurate, authoritative history of these two unique A-6 derivatives to be published. All facets of the EA-6 program, from initial design studies through current operational status are included, and every unit to fly the two types is illustrated and provided textual coverage.

"In typical Aerofax fashion, the photo content is exceptionally complete, with detailed, and in most instances, never-previously-published images of virtually every aspect of both aircraft types. Much of the material has, in fact, been generated specifically for this history. With unprecedented cooperation from the Navy, the Marines, and Grumman Aerospace, this book should remain the definitive work on the EA-6 program for some time to come.

"With over 25,000 words of text, approximately 225 photos, 8 pages of color, and numerous drawings (including an 8-page fold-out), this is an outstanding reference."

Aerofax, PO Box 200006, Arlington, TX 76006.

MINIGRAPH 9: NORTH AMERICAN ROCKWELL A3J/A-5 VIGILANTE, Grove and Miller. 56 pages 8.5 in. by 11 in., softcover.

"Written by Michael Grove and Jay Miller, this Minigraph represents the first truly complete history of the precedent-setting Vigilante ever produced. Every aspect of this aesthetically-pleasing reconnaissance/bomber is included, from initial design studies through flight testing, initial deployment, and operational use over Vietnam.

"All variants, from the original A3J through the RA-5C are covered. The photo section, assembled with the extraordinary cooperation of Rockwell International's Columbus, Ohio, division shortly before they closed their doors forever, includes the first

published photos of the A-5A's unusual rearward bomb ejection system and associated weapon configuration. Rare cockpit photography also is provided.

"A truly exceptional reference with over 25,000 words of text, 8 pages of color, over 200 over-view and detail photos, and numerous drawings (including an 8-page fold-out)."

Aerofax, PO Box 200006, Arlington, TX 76006.

EDICE TRIADA

ILUSTROVANA HISTORIE LETECTVI: MIG-17, HURRICANE, & SPAD VII/XIII. Edice Triada, 14.5 cm by 20.5 cm, 158 pages.

"The most interesting part of this book for SAFO readers is undoubtedly that describing the MiG-17. Among the 28 color side-view drawings are those depicting aircraft of Angola, China, Cuba, Cambodia, Czechoslovakia, East Germany, Egypt, Pakistan, Poland, Nigeria, Sri Lanka, Syria, Morocco, Mozambique, Vietnam, & USSR. Black-and-white photos show Chinese, Nigerian, Iraqi, Syrian, Vietnamese, Indonesian, and East German MiG-17's. Two pages of scale drawings feature the MiG-17 and MiG-17 PFU with partial views of the MiG-17 SM-1, MiG17 SP-2, MiG-17 P, and the curious MiG-17 SN with side intakes.

"All 21 Hurricane color side-view drawings are of RAF machines, but 19 of them are os aircraft flown by Czechoslovak pilots. Again, there are sketches of details, two pages of scale drawings, and a table of individual aircraft histories for Hurricanes flown by 310 (Czech) Squadron.

"The section on the SPAD includes color side-view drawings of French (11), Belgian, Russian, English, Italian, USA (2), and Czech (4) aircraft. Some of the French SPAD illustrated were flown by Czech pilots. The usual sketches and two pages of scale drawings are included."

Daniel Petz (SAFCH #623), Na Ladvi 21, 182 00 Praha 8, CZECHOSLOVAKIA.

[Editor's note: Daniel has sent a number of these excellent books for sale though the SAFCH Sales Service. This book, as all others in this series, can be highly recommended.]

BUGSMASHER IN 1/72 SCALE

BEECH C-45 EXPEDITOR, 1/72-scale injection-molded kit. Pioneer 2. \$9.00.

A kit of the Beech 18, or Bugsmasher as it was affectionately called in the US Navy, has been long awaited. Now, our friends at Pioneer 2 have provided us with a kit that should satisfy every one except the high-tech aficionado. The 36 parts are sharply molded in a dark-grey, flash-free plastic (plus 13 clear parts). The inscribed panel lines are a little deep, especially on the fuselage, but not objectionable. The interior is rather spartan, consisting of a floor, front and rear bulkheads, 2 Frog-like crew seats, and 2 control yokes. The engines are represented by shallow molded fronts, again quite Frog-like. The fact, the whole kit reminds me of the old Frog kits. This is not meant to be derogatory. I like Frog kits!)

The windscreen is clear although on the thick side. However, the windows exhibit a prominent lens effect and would best be replaced by one of the crystal-clear products. The instruction sheet is minimal, but

(Continued on page 24.)

BIAFRA BABIES

When the Republic of Biafra proclaimed its independence from Nigeria on 30 May 1967, the new-born country had few, if any, aircraft available to defend its new country. Even if, as has been reported, a few Nigerian Air Force aircraft did fall into Biafran hands at the outbreak of the war, none of these were suitable for combat operations.

In the summer of 1967, Biafra obtained at least two B25s and one B-26 Invader from various sources. These aircraft were initially based at Enugu, but when, in the autumn, Enugu was attacked by Nigerian ground forces, the two B-25s were moved to Port Harcourt and the B-26, which was unserviceable, had to be destroyed. Some sources say a second B-26 was found at Enugu when the Nigerians captured the airfield.

A number of raids were flown from Port Harcourt using the B-25s, a newly acquired B26, and a DC-3 converted to a bomber. Apart from a number of Biafran pilots, including Colonel Zoki, the commander of the Biafran Air Force, and Colonel Ezilo, the BAF employed a small number of foreigners. These included the German Friedrich "Freddy" Harz, the Pole Jan "Mr. Brown" Zumbach, and a Cuban. One of the B-25s was written off and the pilot, "Freddy" Harz badly injured, on 2 December 1967 when it ran out of fuel after an attack on Calabar. Soon afterwards, the Nigerians captured Port Harcourt, and the remaining two bombers had to be left behind by the retreating Biafrans.

No new aircraft were delivered to the BAF during the whole of 1968. The Biafrans negotiated with a number of suppliers on the "black market", but no aircraft were received and the deals cost the Biafrans a lot of money.

COUNT VON ROSEN AND THE SWEDISH VOLUNTEERS

The Swedish Count Carl Gustaf von Rosen first visited Biafra in August 1968 as a pilot of one of the relief flights into Uli airport. He was very concerned with what he saw and tried to get Western countries to put diplomatic pressure on Nigeria to stop the attacks on Biafra, but to no avail. In December 1968, he suggested that the Biafran government obtain a number of small, civilian aircraft which could be armed and used against important Nigerian targets. After some initial reluctance, the Biafrans agreed to this proposal and von Rosen volunteered to act as an instructor and also to lead the first few raids. In the spring of 1969, the BAF purchased five MFI-9Bs from Sweden through a front company in France. The aircraft were flown to France for modification before delivery to Biafra. The most important changes were rocket pod attachments under the wings and a gun-sight mount in the cockpit. These aircraft were then disassembled and flown by airfreight to Libreville in Gabon, where they arrived around 14 May.

Meanwhile, von Rosen had found a few volunteers in Sweden to help carry out Operation Biafra Babies, as it was called. These included the pilots Gunnar Haglund and Martin Lang, as well as a few ground personnel.

Once they arrived in Gabon, the MFIs were quickly put together and sights fitted. (The sights used had been bought surplus from the Swedish Air Force and reputedly came from WWII vintage FFVS J-22 fighters.) Matra rocket pods

(six 68-mm armour piercing rockets in each) were mounted under each wing and an extra fuel tank was installed in the cockpit, in place of the right-hand seat. The Gabonese authorities (who covertly supported Biafra) made available an airstrip in the jungle south of Libreville where the MFIs were painted and test flown. Apart from the three Swedish pilots, three Biafrans were also checked out in the MFI while in Gabon. Their names were Auguste Okpe, Willy Bruce, and one known only as Goody.

BIAFRA BABIES TO THE ATTACK

On 22 May, the first attack was made. Five aircraft were used took off from Gabon and attacked Port Harcourt on way to their base in Biafra north of Uga. The pilots on this mission were the three Swedes, plus Auguste and Willy. AT Port Harcourt. 3 Nigerian aircraft were destroyed or severely damaged on the ground and many airfield buildings were damaged. It was later reported that some 250 Nigerian troops were killed in the attack.

Two days later, the airfield at Benin was attacked, using four of the MFIs (Willy stayed behind during this and the following three attacks). Two Nigerian aircraft were hit and probably destroyed. On 16 May, four MFIs attacked the airfield at Enugu, damaging or destroying two Canberras, one Heron, and a MiG. Two of the MFIs flew so low that they hit trees and bushes and were slightly damaged. The aircraft flown by Martin Lang was hit by ground fire, but sustained only minor damage.

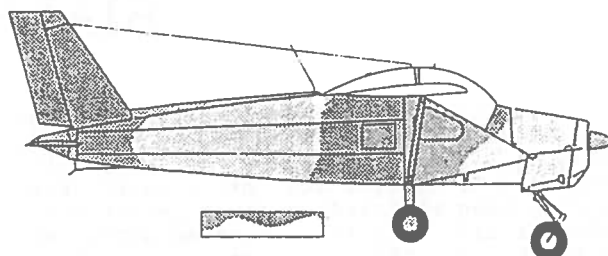
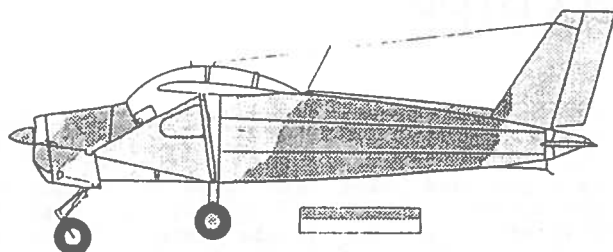
A few days later, the base used by the MFIs was attacked by two NAF MiGs, who made two passes over the field. Two Biafrans were killed and a number of others wounded, but no MFIs were damaged. In the afternoon, four MFIs attacked the power station at Ughelli which was put out of use for about six months.

The last mission flown by von Rosen and the others Swedes was against a village near Owerri on 1 June. The object was to attack Nigerian ground troops positioned there, allowing a follow-up attack by the Biafran Army. But the target was never located and all four aircraft returned to their base without firing any rockets.

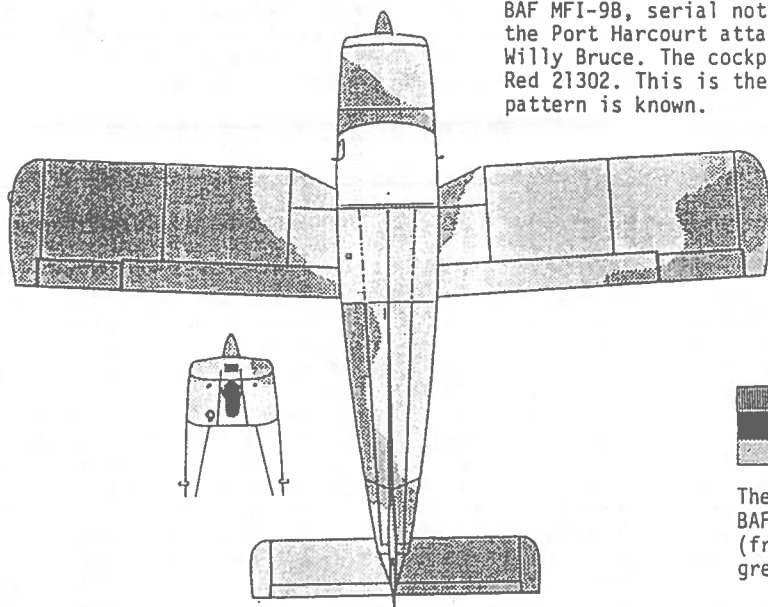
THE SWEDES GO HOME

After von Rosen, Haglund, and Lang returned to Sweden, the only pilot left in Biafra was Auguste Okpe. Apparently he flew no mission during the next few weeks. But, in July another Swedish pilot, Rune Norgren, arrived in Biafra. Over the next month he made 21 attacks with the MFIs; sometimes together with Auguste, but often on his own. The targets were mainly in support of the Biafran Army. One of the major Nigerian oil pumping stations - found by accident during a mission - was also severely damaged. Rune returned to Sweden in mid-August, once again leaving Auguste as the only BAF pilot. He made a couple of attacks during the next few weeks, but most of the time the MFIs stayed on the ground.

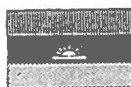
During the summer of 1969 another four MFI-9Bs had been obtained and in August a flying school was set up in Gabon with von Rosen as an instructor, but most of the work was carried out by another Swede, "Kris"



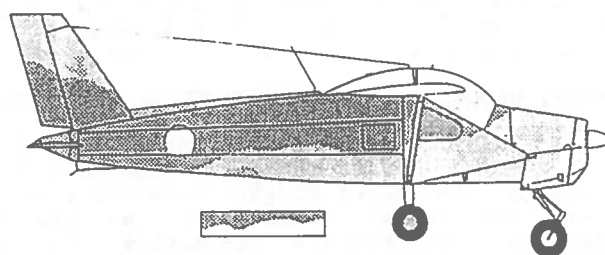
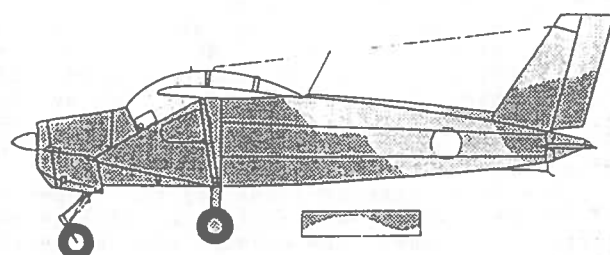
BAF MFI-9B, serial not yet assigned (c/n unknown), as it looked during the Port Harcourt attack, May 22 1969, flown by either Auguste Okpe or Willy Bruce. The cockpit interior (walls and rear bulkhead) was painted Red 21302. This is the only BAF MFI for which the wing camouflage pattern is known.



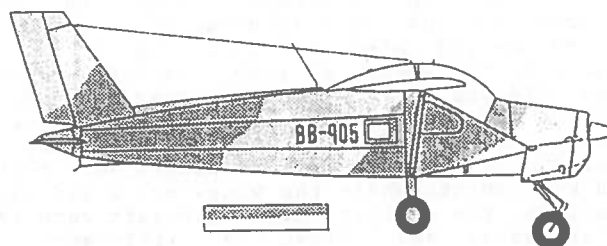
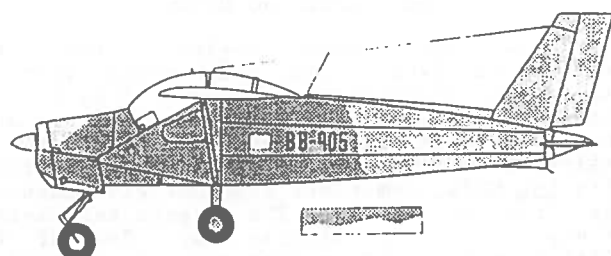
Sight



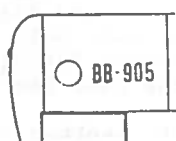
The Biafran flag and the BAF roundel. Colours are (from top) red, black and green. The sun is yellow.



BAF MFI-9B, serial not yet assigned (c/n 53, ex SE-EUL), as it looked during the attack on Enugu, May 26 1969, flown by Martin Lang. Note that this aircraft had the front half of the canopy tinted green. It is probable that roundels were also carried under the wings. The cockpit interior was Dark Green 14036.



BAF MFI-9B, serial BB-905 (c/n unknown), November 1969. The right-hand side camouflage pattern is not conclusively tied to this particular aircraft. Cockpit interior is probably painted Red 21302. The codes were medium grey.



Leif Hellström (SAFCH 786)

Kristensen, who was in charge of the flying school from August 1969 until the end of the war in January 1970. Kristensen never flew on actual missions.

At this time, since the BAF had given up on the purchase of sophisticated aircraft, they recalled all their pilots who had been sent abroad to learn to fly these types. Most of these pilots were former NAF or Nigerian Airways pilots who had plenty of flying experience. Their names were Skukwu, Goody, Sammy, Ibi Brown Jr., Alex, Larry, and Johnny. They were now checked out in the MFI and sent to Biafra to fly a few missions and get a little combat experience. They then returned to Gabon for additional training. The only foreigner flying with the BAF was "Freddy" Harz, who had recuperated after his crash in the B25.

By October, the BAF was ready to take to the offensive again. One of the more successful attacks was made against the Benin airfield on 10 October, when four MFIs destroyed an NAF DC4 used as a night bomber, as well as a newly-delivered, radar-equipped MiG. The commander of the NAF was also killed in this attack. In return, the Nigerian anti-aircraft fire had damaged all the attacking MFIs, although all of them made it back to their base safely. During the rest of 1969, attacks were made almost daily, usually with two or three MFIs participating in each attack. Most of the attacks were along the front, but targets also included ships, oil tanks, radio stations, and a couple of airfields. On 12 November, two separate attacks against Port Harcourt and Escaveros damaged or destroyed one DC-6, one DC-3, three MiG-17s, one Do-27, and two other aircraft.

The only other type of aircraft used by the BAF during the war was the T-6. Twelve of these had been purchased, but they were in such bad condition that, even after a year, only four could be made serviceable. In early November, these four T-6s took off from an airfield outside Biafra, presumably in Gabon for their new base near Uga. One got lost and landed in another country while the fourth crashed in Nigerian territory and the pilot, said to be Portuguese, was taken prisoner. The two remaining T-6 were used on ground attack missions alongside the MFIs. The first of these missions was on 9 November.

On 28 November BAF lost its first MFI, when Alex was shot down by ground fire near the village of Obrikon. The following day, a MiG-17 caught two MFIs just as they had landed. The aircraft flown by Sammy was totally destroyed only seconds after he had leaped from the cockpit, while that flown by Freddy was heavily damaged with one wing torn off and the fuselage perforated by shell fragments. This aircraft flew again within ten days.

During a mission on 15 December, Freddy's MFI was so severely damaged by ground fire that he had to make an emergency landing at Uli airfield where he discovered that one magneto had been shot to pieces, an oil line severed, and the left wheel shot off. There were also eight bullet holes in the fuselage. On 4 January 1970, just a week before the war ended, the BAF lost one more MFI and its pilot, when Ibi Brown was shot down in flames by Nigerian ground fire.

The MFI-9Bs of the Biafran Air Force flew more than 300 missions between May 1969 and January 1970. For the loss of three MFIs, the BAF destroyed or damaged some 20 NAF aircraft, as well as numerous army vehicles, guns, ships, and military installations. The attacks on oil installations resulted in a noticeable

reduction in Nigerian oil exports.

Of the six MFIs remaining in BAF service at the end of the war, one is said to have been preserved as a monument somewhere in Nigeria. At least two were reportedly flown to Gabon where one was spotted in 1983, although not apparently in Gabonese service. The other MFIs left in Nigeria were presumably scrapped and, as far as is known, none were used by the NAF.

The nine MFI-9Bs used by the BAF were: First group SEEUE (c/n59), -EUL (53), -EUN (44), -EWF (52), and -EWE (51). Second group SE-EFU (c/n 32), -EUP (46), -EWB (47), and -EUB (56). Five of these had previously been used by the Swedish Air Force as primary trainers.

CAMOUFLAGE AND MARKINGS

When the MFIs arrived in Gabon, they still carried Swedish civil registrations and paint schemes. Repainting took place at Camp I, outside Libreville, using ordinary gloss paint purchased locally. The paint was brushed on by the pilots resulting in a different pattern on each aircraft.

Half-way through the repainting process they ran out of paint, and it was necessary someone to fly up to Libreville for more paint. Since all aircraft had already been partially camouflaged, Gunner Haglund flew the one MFI still having a civilian paint scheme left on one side, being careful to keep the camouflaged side out of sight of the control tower!

All this resulted in variations between the aircraft and it is evident from colour photos that the colours did differ somewhat. The FS references given on the drawings should, therefore, be taken as somewhat provisional. Note that all three colours should be gloss, although 2xxxx numbers are given for two of them.

Almost all the available photos were taken during the first few weeks while the aircraft were still devoid of markings. At least one aircraft did get roundels on the fuselage. Later, all MFI had the Biafran flag as a national insignia, but the size differed from aircraft to aircraft. Roundels were carried under the wings (but almost certainly not on top) of at least one aircraft, although it is probable that all MFIs were so marked. There is no evidence of Biafran flags being carried under the wings.

All MFIs received serial numbers in the BB-9xx range. Known serials are BB_903, -905, and -909, indication that the range was BB-901 to -909. These numbers were painted, in medium grey, on the fuselage sides and under the wings. They were hand painted so the size and style did vary.

The paint scheme shown in the Munin Models instruction sheet was based on information since found to be questionable. The drawings accompanying this article are all based on photographic evidence.

This article is based on the book "Gerillapilot i Biafra" by Gunnar Haglund (see review in SAFO #49) plus additional information and photos provided by Gunnar Haglund and others. If any reader has additional information on aircraft used by the Biafran Air Force, please get in contact with the author.

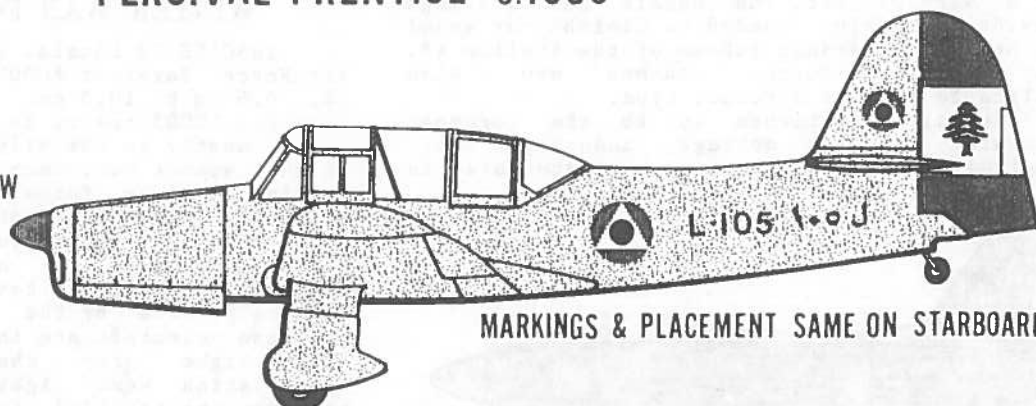
Leif Hellstrom (SAFCH #786), Serwituts-vagen 3, S-145 59 Norsborg, SWEDEN.

[Editor's note: Paul Wigley (SAFCH #467) provided information on the Biafra Baby that was superseded by Leif's article; thanks Paul. The Munin Model kit of the Biafra Baby is available from the SAFCH Sales Service at a considerable savings from what it cost from the mail order houses.]

LEBANON

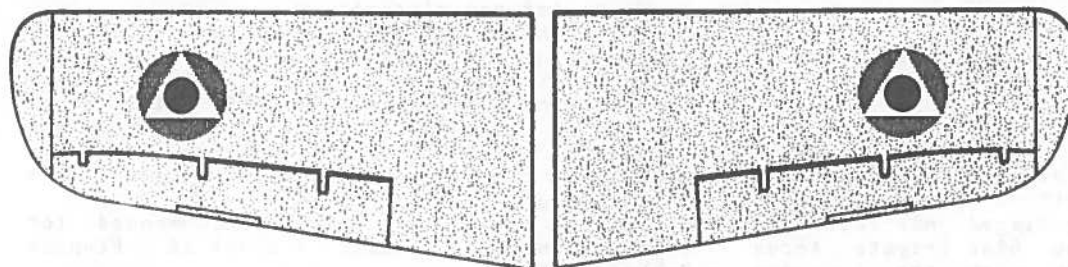
OVERALL : TRAINER YELLOW

SPINNER : RED



MARKINGS & PLACEMENT SAME ON STARBOARD

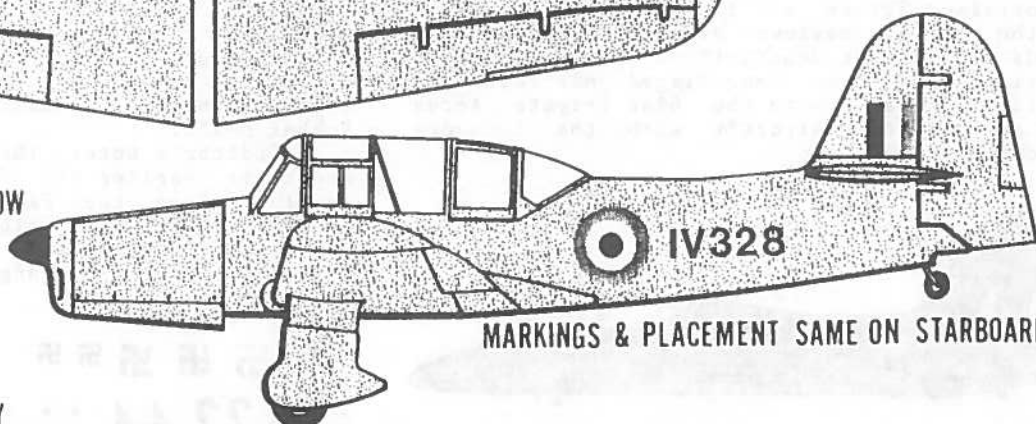
WING CODING NIL



INDIA

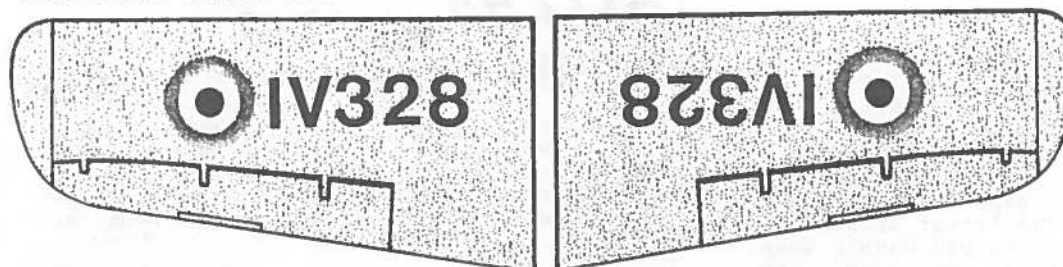
OVERALL : TRAINER YELLOW

SPINNER : BLACK



MARKINGS & PLACEMENT SAME ON STARBOARD

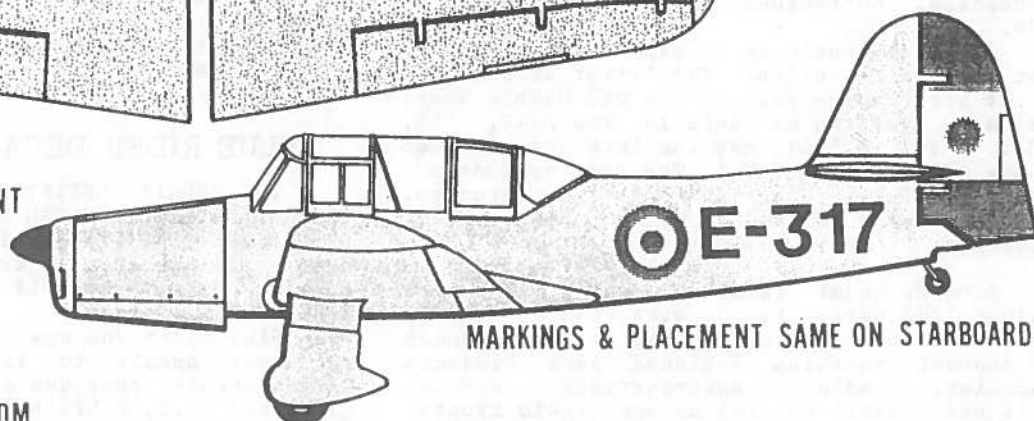
WING CODING BOTTOM ONLY



ARGENTINA

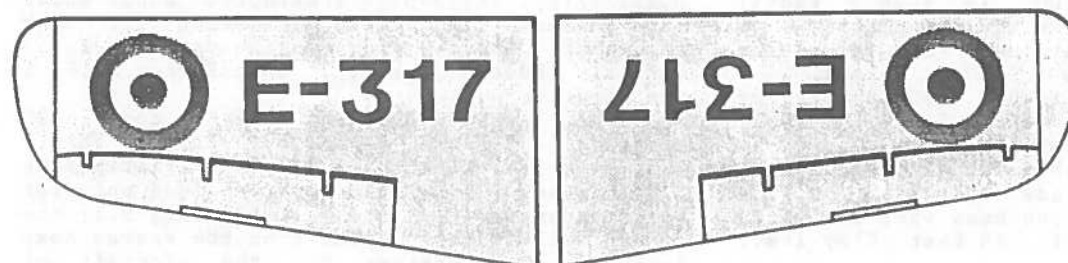
OVERALL : ALUMINUM PAINT

SPINNER : BLACK



MARKINGS & PLACEMENT SAME ON STARBOARD

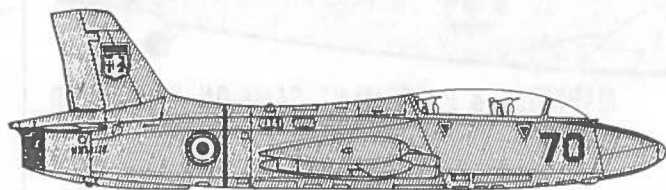
WING CODING TOP & BOTTOM



ART & INFO:
JACK WALSH #655

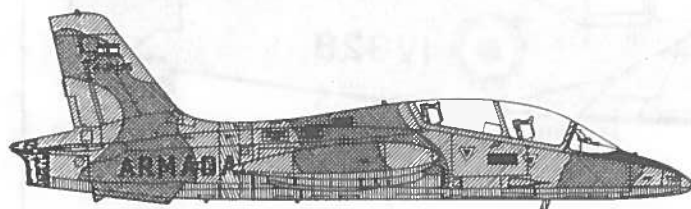
are a work of art. The decals and drawings provide everything needed to finish your model in the overall orange scheme of the Italian AF. Many small-air-force schemes are also applicable to this aircraft type.

Aeroclub continues to be the foremost innovator in the cottage industry. Their Aerotrainer Series sets a new standard in affordable limited-run kits.



AEROMACCHI MB 339, 1/72-scale. Aeroclub, 5 Silverwood Ave., Ravenshead, Nottingham NG15 9BU ENGLAND. £ 4.85.

This is the second in Aeroclub's Aerotrainer Series and is identical in format to the MB 326 reviewed above and, therefore, needs no further description. The decals are provided for two camouflaged aircraft: an Italian aircraft with the 61st Brigata Aerea and an Argentine aircraft with the Escuadra Aeronaval No. 4.



ACCESSORIES

P&W DOUBLE WASP R2800, 1/72 scale cast-metal accessory. Aeroclub 5 Silverwood Ave., Ravenshead, Nottingham NG15 9BU ENGLAND. £ 1.09.

Aeroclub continues to expand their list of cast-metal accessories. The latest at hand for review are two version of the P&W Double Wasp; the early version as used in the P-47, P6F, F4U-1, A-26, & P-61, and the late version used in the F7F, F8F, & F4F-4. The two versions are sold separately. When you order from Aeroclub, you might want to add 75 p for their latest catalogue.

Roberts Model is now producing 1/32-scale resin-molded parts to go with Combat Models vacuforms. For example, the set for the Grumman F8F Bearcat contains 4-bladed Aero Products propeller, main undercarriage struts, tailwheel, seat, control column, radio fronts, and throttles for \$7.00. An R-2800 radial engine is available for an additional \$5.00.

Besides the Bearcat, sets are available for the Dewoitine D.520 (\$7.00), Sukhoi Su-7 (\$7.00), Grumman A-6 Intruder (\$9.00), Fairey Swordfish (\$12.00), and Vought F4U-4/5 Corsair (\$7.00 plus \$5.00 for engine).

Sets will be available for all Combat kits and, if you let them know what kit you are working on, they'll let you know when the parts are ready. Roberts Model, 18 East Clay Ave., West Hazelton, PA 18201.

WINTER WAR FOKKER D.XXI

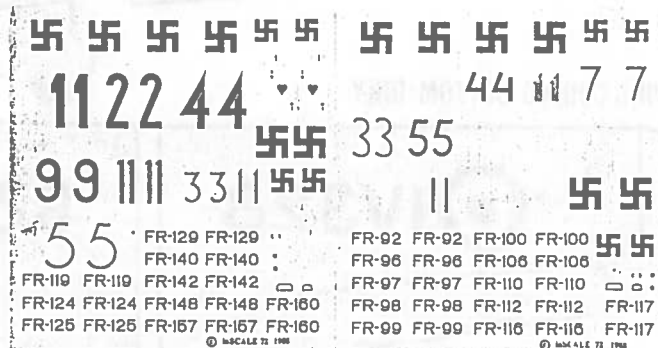
inSCALE 72 Decals. Fokker D XXI in Finnish Air Force Service: AC003 1939-42; AC004 1941-44. 9.5 cm by 10.5 cm.

Set AC003 covers 14 Mercury-engined Fokker D-XXI, mostly in the olive green and light grey of the Winter War. Decals are provided for the special markings for all of these, however, there are only enough national insignia for one aircraft. This should be no problem since the Finnish swastika is available from other sources. Set 004 covers 12 Finnish-built Fokkers powered by the Twin Wasp Junior. All of these aircraft are in the black/olive green with light grey characteristic of the Continuation War. Again, all the special markings are provided, but only enough national insignia for one aircraft.

The sheets are superbly printed in perfect registration. The quality of the instruction sheet is illustrated by the page of Fokker drawings in this issue of SAFO which is a reprint of the back page of Set AC003. The following FS 595a equivalents are given: Olive green 34096; black 37038; light grey 36440; & yellow 13637.

These sheets are highly recommended for anyone planning to build a model of a Finnish Fokker D-XXI.

[Editor's note: These inSCALE 72 decals, and their earlier two for Finnish Bf-109s, are available from the SAFCH for \$5.00 postage included. This is a significant savings over the price from Finland of \$6.10 plus postage and plus currency exchange fees.]



BLUE RIDER DECALS IN 1/48 SCALE

WWI GERMAN LUFTSTREITKRAFTE MARKINGS; WWI GERMAN LUFTSTREITKRAFTE MARKINGS (Sheet 2); and WWI AUSTRO-HUNGARIAN FLIK INSIGNIA MARKINGS. 1/48 scale decals, 29 cm by 29 cm. Blue Rider Models, 43A Glasford St., Tooting, SW17 9HL, ENGLAND.

Blue Rider was now extended there range of excellent decals to 1/48 scale. The first German sheets provides decals for 11 aircraft (3 Fokker Dr.I, 3 LFG Roland C.II, & 5 Albatros D.III/V/Va). The 3-page instruction sheet shows color schemes and decals placement for each aircraft. Sheet 2 provides the markings for 5 aircraft (Udet's D.VII, 3 more Fokker Dr.I, & one Albatros D.V).

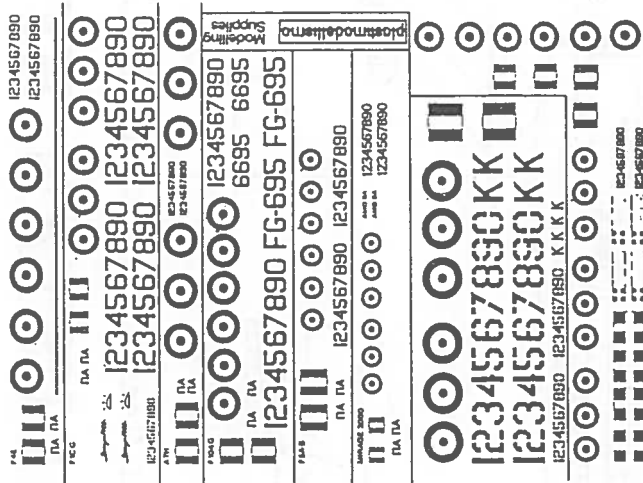
The Austro-Hungarian sheet cover 23 aircraft (2 Hansa Brandenburg D.I, 5 Phonix D.I, 11 Oeffag Albatros D.III, & 5 Aviatik Berg D.I). national insignia are provided only for the Brandenburg D.I and Aviatik Berg D.I; the others will have to come from the spares box. Included are markings for the aircraft of

The quality of these decals is up to the usual high Blue-Rider standard with dense colors and perfect register. These decals should provide the incentive you need to purchase a couple of the Sierra Scale Models vacuforms.

PLASTIMODELLISMO DECALS: Jim Larozas
(SAFCH #959) of Greece has provided some of his
decals for sale through the SAFCH. Of the four
sheets available, each 12.5 cm by 17.5 cm, 2
feature Greek AF national insignia and 2 cover
USAAF national insignia. (1) The first sheet
provides enough national insignia and numbers
in 1/72 scale to mark one each F4E, F1C-G, A7H,
F104G, F5A-B, & Mirage 2000. Additional
insignia and stencil-style numbers are
provided. (2) The second sheet contains
assorted national insignia with diameters from
0.5 cm to 4.0 cm. Unfortunately, neither decal
set includes an instruction sheet, so you are
on your own in figuring out where the decals go.
Perhaps Jim will provide an article for SAFO on
these aircraft.

Both USAAF sheet provide star-and-bar insignia with one sheet including low-vis versions. No instruction sheets again, but there is no lack of references for these subjects.

These sheets are available from the SAFCH Sales Service for \$3.00 each.



DUTCH DECALS, Kerkstraat 2, 2471 AP
Zwanmerdam, NETHERLANDS.

"The moving force behind Dutch Decals is Mr. Luc Boerman who is also the art director of Modelbouw In Plastic, the magazine of IPMS Netherlands. As such, he has had access to a lot of unique material and many official sources. Historical accuracy is therefore guaranteed. These decals have been available in Holland for nearly 3 years. They are now available in the US from: Imported Specialties, 3655 Sullivant Ave., Columbus, OH 43228 and from Double Dekker Enterprises, 9156 Buttercup Ave., Fountain Valley, CA 92708."

Set 72001: Dutch Dakotas and Hudson. This sheet provides the markings for one Lockheed Hudson and 7 C-47. Although only enough Dutch roundels are provided for one aircraft, these are available from other sources. Also, there are not enough markings to build all 7 Dakotas.

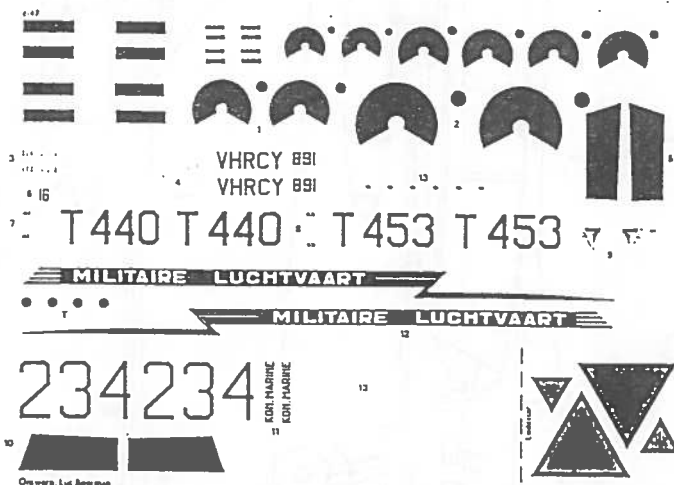
Set 720002: Dutch Dakotas and Lodestar. This sheet provides the markings for one Lodestar with orange triangle national insignia, 2 C-47 with flag national insignia, and 4 Dakotas with roundel national insignia. Once again, there are not enough markings for all these aircraft, but it should be possible to build quite a number of them with the help of outside sources.

Set 48001: Dutch Starfighters. This sheet provides the markings to build one of 7 Starfighters, each from a different squadron. Included are national and squadron insignia, code and serial numbers, and miscellaneous markings & stencils. The Squadron insignia should be applicable to other Dutch aircraft.

Set 48003: Dutch F-16 and F-84F. This includes the markings to build both a F-84F of the "Whiskey Four 67" aerobatic team and the colorful 75th Anniversary F-16A.

All sheets measure 21 cm by 15 cm. The printing is sharp, the colors dense, and the registration good. The 1/72 sets include 4-page instruction sheets with drawings of all aircraft and a page of photos. The 1/48 sets have a 2-page instruction sheet.

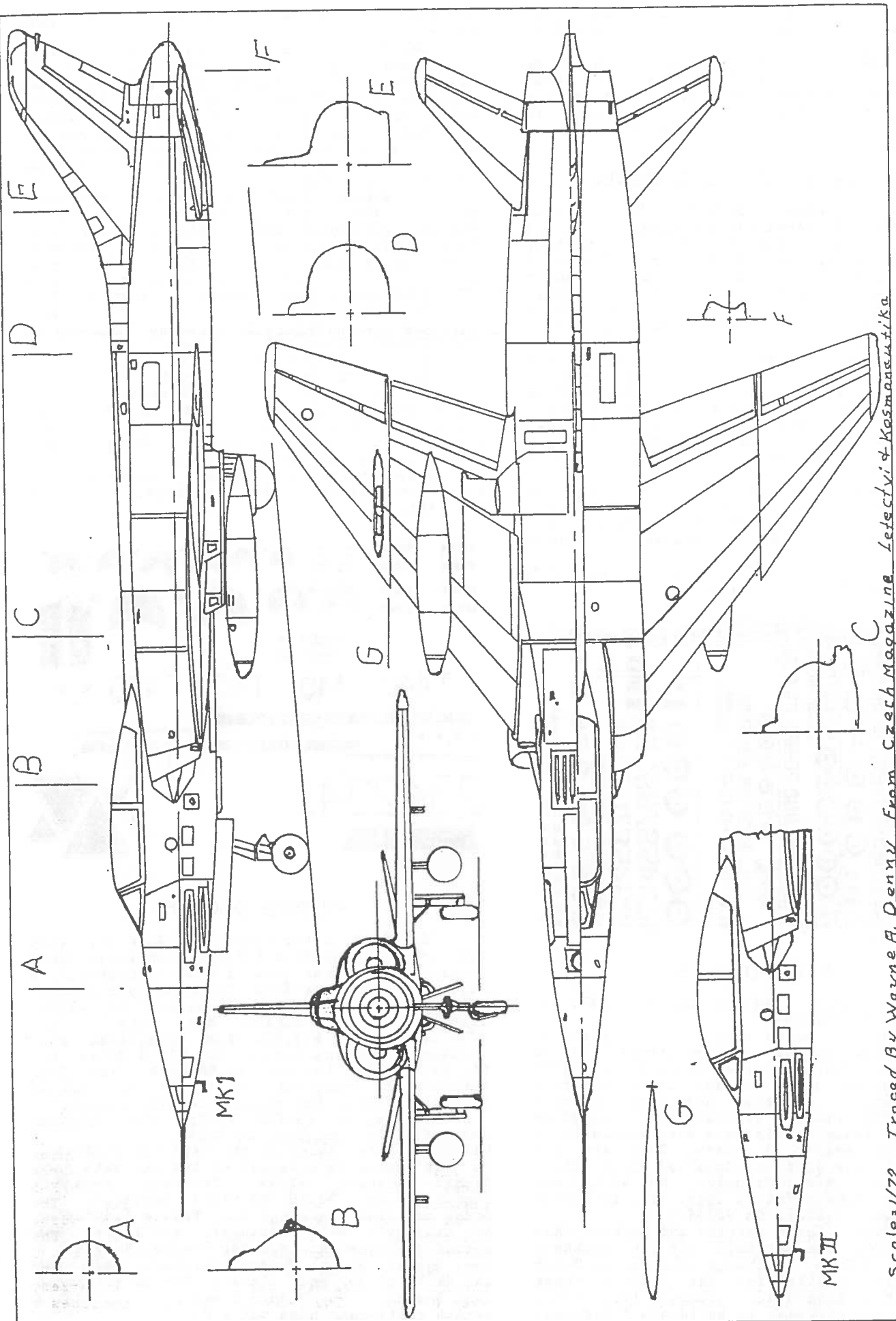
These sheets are highly recommended to anyone contemplating building models of Dutch aircraft.



"Two days after receiving SAFO #52 with the review of the French decals, in which David Klaus lamented the lack of a US distributor, I received a catalog from Imported Specialties, 3655 Sullivant Ave., Columbus, OH 43228, listing these same decals. Most, both 1/48 and 1/72 sets, are \$13.98. The exceptions are: cocades and codes (48-02, 03, 07, & 08 and 72-05, 11, 12, & 13) are \$6.98 each, and 72-6, French Unit Insignias, is \$10.98. So, now we have a US course for these excellent decals."

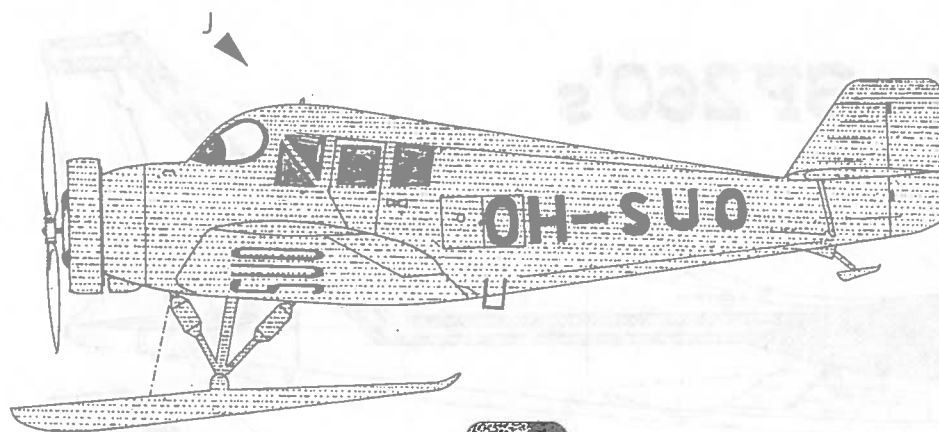
Tom Hampton (SAFCH #613), 820 Chestnut Ave., #16, Los Angeles, CA 90042.

[Editor's Note: Received too late for inclusion in this issue is a review of two new sets from Decals Carpena: 72.09 "Lockheed P-38/F-5 Lightning" and 72.10 "Spitfire Exotics". The first contains markings for France (including St. Exupery's F-5), Portugal, and Italy. The second provides markings for France, Belgium, USSR, Egypt, Burma, Sweden, Denmark, SAAF, and the Mk.Vb of 302 Sqd. flown by Stefan Witorzenc over Dieppe. The P-38/F-5 set also includes a superb resin-cast nose for a F-5.]

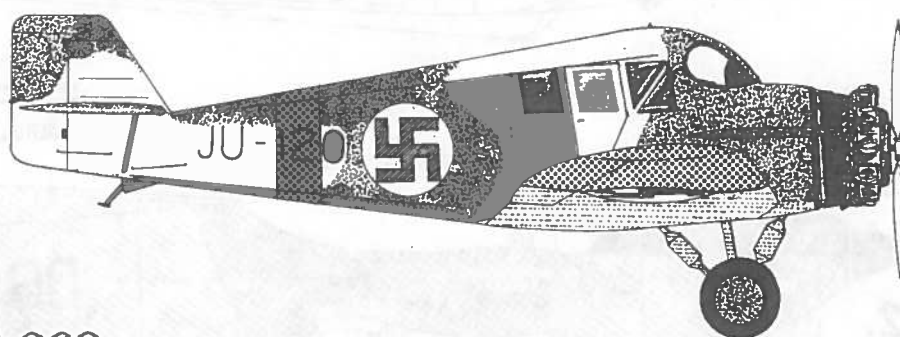


Scale=1/72, Traced By Wayne A. Denny From Czech Magazine Letectvi & Kosmonautika

HINDUSTAN HF-24 MARUT



F19 JUNKERS F 13
(Captions on page 14)



AFRICAN SF.260

DRAWINGS ON PAGE 30

1. Somali Air Force SF.260M, code 60-SBE, white overall with light blue stripes on the fuselage and tail. Spinner and fuel tanks also light blue. Antiglare panel and inboard surfaces of the wing-tip fuel tanks matt black. Propeller blades grey with yellow tips. Black code and serials.

2. The three SF.260W in the Comores were two-tone camouflage with light grey under surfaces. The camouflage colors appear darker than the standard colors applied at the factory and are probably tan and brown. Code letter, antiglare panel, and spinner black. There is no black on the inboard side of the wing-tip fuel tanks. Serials in white.

3. Camouflage scheme of Tunisian SF.260 (Tunisian designation W41) was the factory specified tan FS30266 and green FS34102 on upper surfaces with grey FS56473 under surfaces. Spinner, nose, outboard side of wing-tip fuel tanks, band around fuselage, and fin tips fluorescent "fire orange". White numbers on the fuselage (401) and fin (W41 401). National insignia on fuselage and (probably) only on top surface of wings.

4. Burundi's SF.260W (?) were camouflaged in the factory scheme without fluorescent orange details. Antiglare panel and spinner black. White code 9U ZRA. Location of red-green-roundel, other than on fuselage, is unknown.

5. The nine SF.260W in Zambia carried the standard factory scheme, except for a green antiglare panel. Roundels were carried in four positions (not on under surfaces of wing). The fin flash is orange-black-yellow with blue under it. All antennas white. AF509 did not have the blue in the fin flash.

References: Monografie Aeronautiche Italiane No.11; ALATA Internazionale 3/1972; Letectvi + Kosmonautika 12/1982.

Robert Gretzyngier (SAFCH #887), ul. Mięczyńska 67A, 02-637 Warszawa, POLAND.

IRANIAN TOMCAT

DRAWING ON PAGE 31

The first contract 40 Grumman F-14A Tomcats was signed by the Imperial Iranian Air Force in June 1974, and another 40 were ordered in January 1975. The first Iranian Tomcat (BuAer 160299, s/n 3-863) had its initial flight 5 December 1976 and it was delivered to Khatami Air Base, near Ispahan, in January 1976. The disposition of these aircraft in 1978 was: Shiraz AFB had two squadron with 30 aircraft; Khatami AFB also had two squadrons with 50 aircraft (including reserves). Iranian Tomcats were BuAer 160299 to 160378 (s/n 3-863 to 3-942).

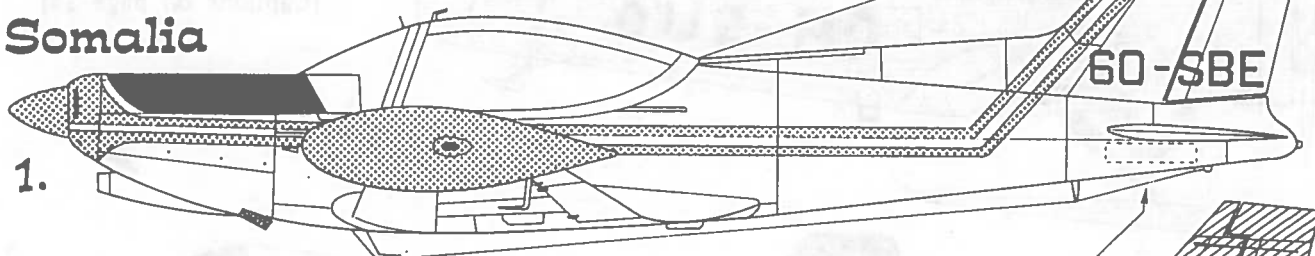
The first Iranian test of Phoenix missile took place in August 1977, and the first interception, a Soviet MiG-25R, occurred in the summer of 1977.

At the time of the Iranian Revolution IN 1979, 77 Tomcats were still in service. One aircraft is said to have been given to the Soviets (any information would be welcome), and three are confirmed as destroyed by the Iraqi Air Force during the Iran-Iraq conflict. It is thought that the remaining aircraft were cannibalized to keep six Tomcat flying for the Islamic Republic of Iran Air Force. Any information about the use of the Iranian Tomcats after the fall of the imperial regime would be most welcome.

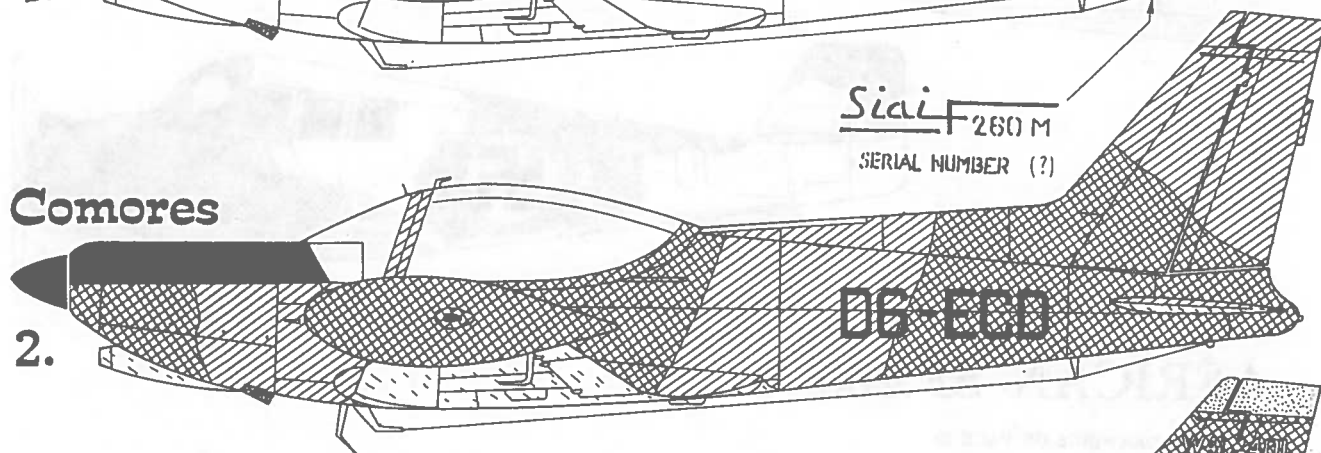
Hubert Cance (SAFCH #809), 56 Bd. E. Lintilhac, 15000 Aurillac, FRANCE.

AFRICAN SF 260's

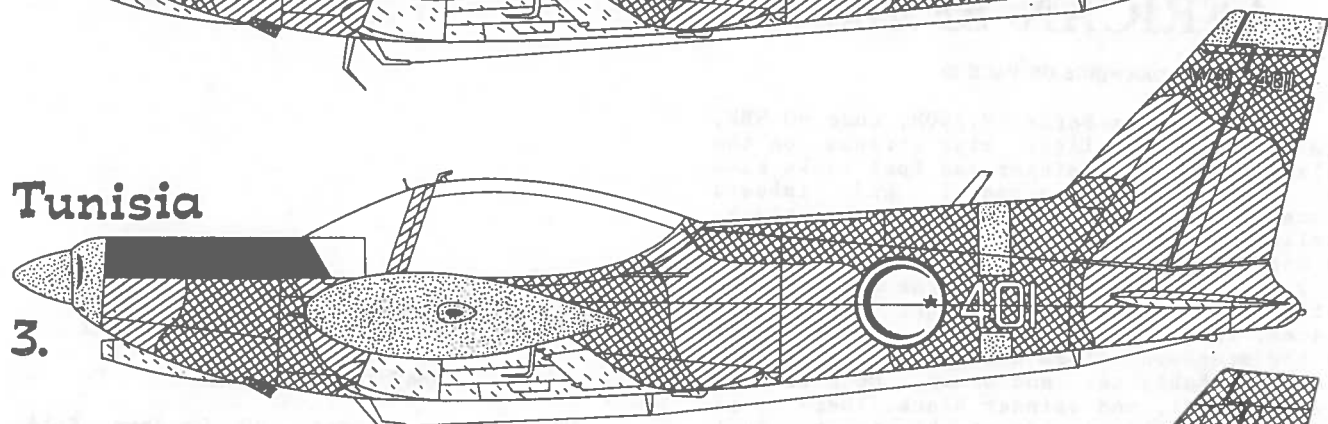
Somalia



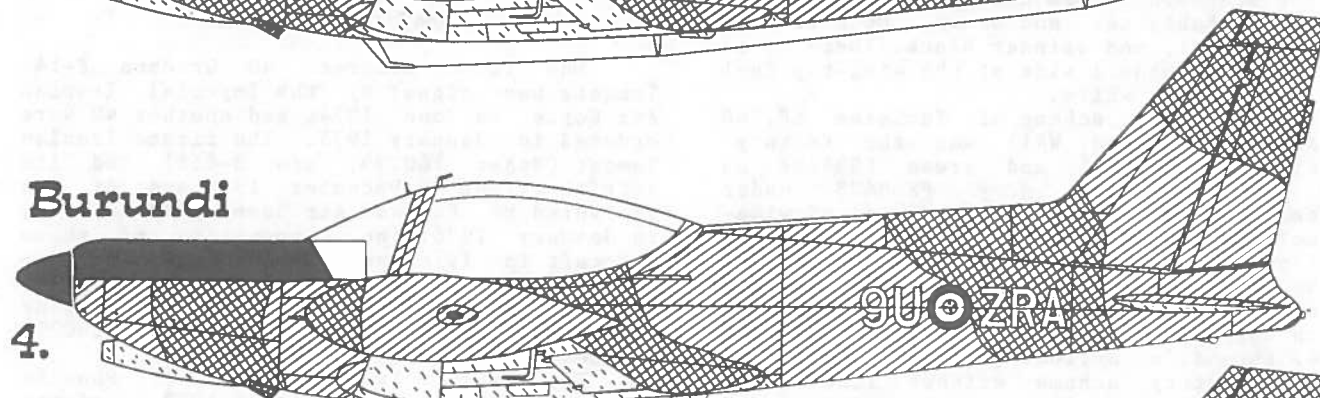
Comores



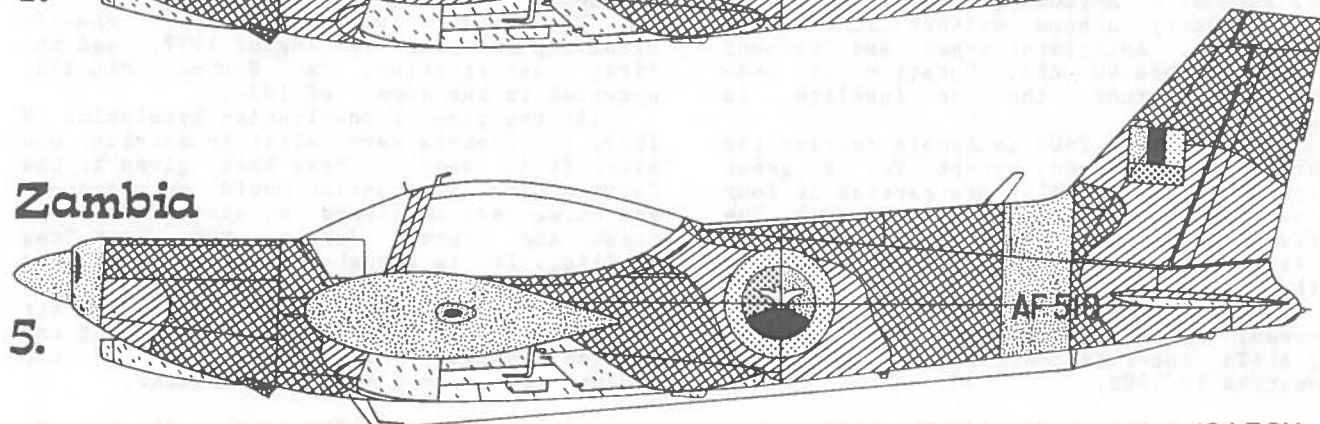
Tunisia



Burundi



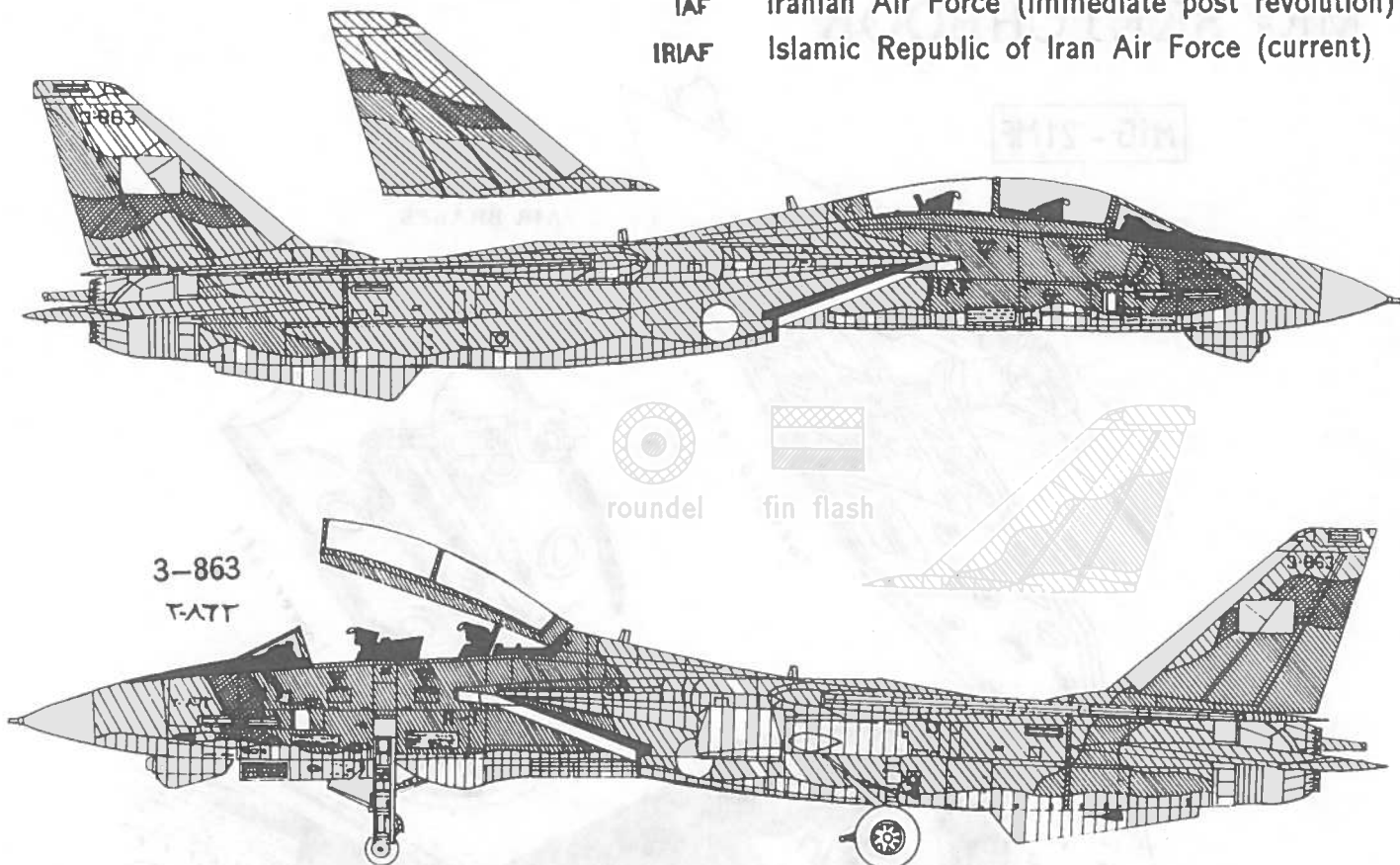
Zambia



Robert Gretzyngier (SAFCH 997)

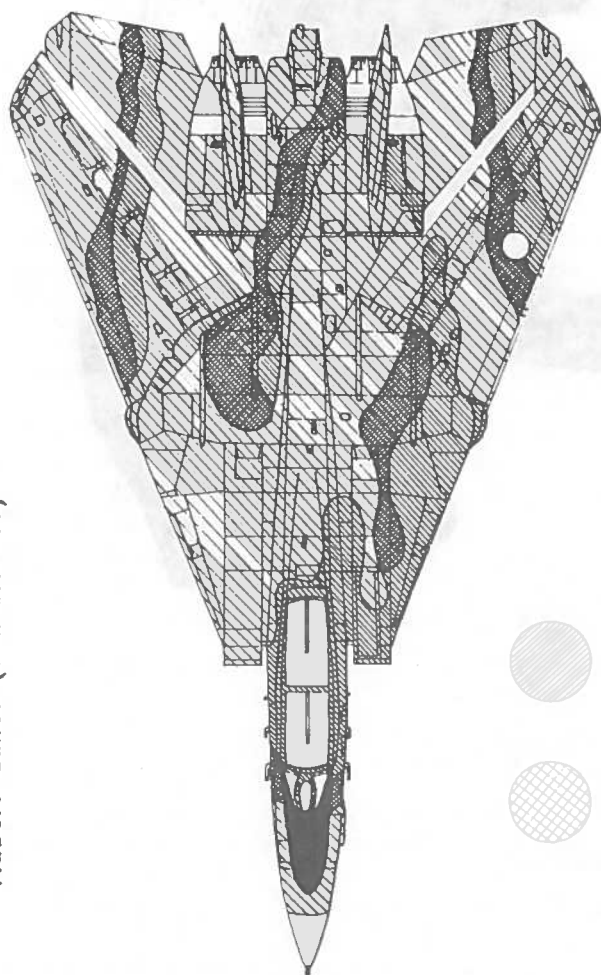
SAFO #53 January 1990

IAF Iranian Air Force (immediate post revolution)
 IRIAF Islamic Republic of Iran Air Force (current)



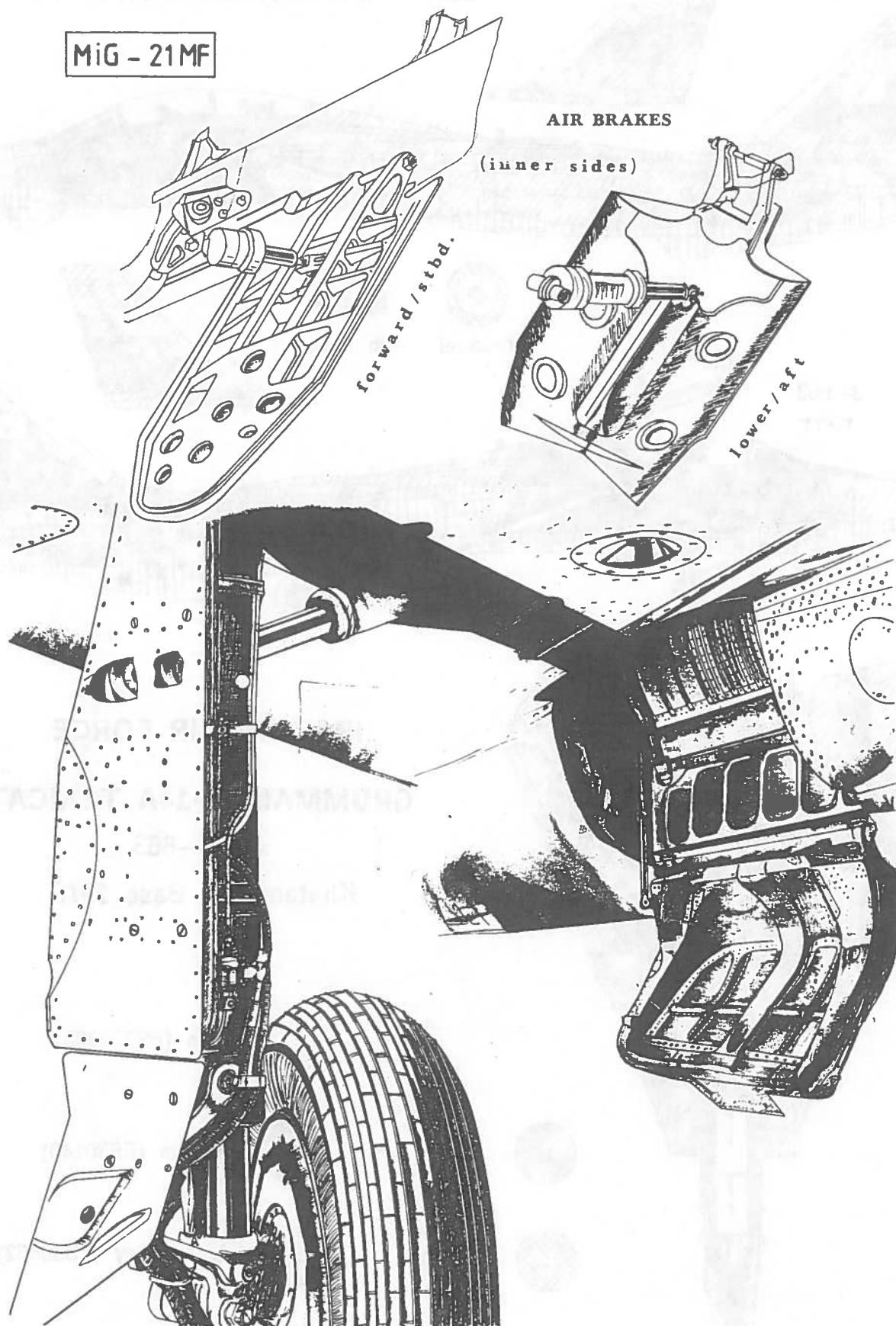
IRANIAN AIR FORCE
GRUMMAN F-14A TOMCAT
 s/n 3-863
 Khatami Air Base 1976

Hubert Cance (SAFCH 809)

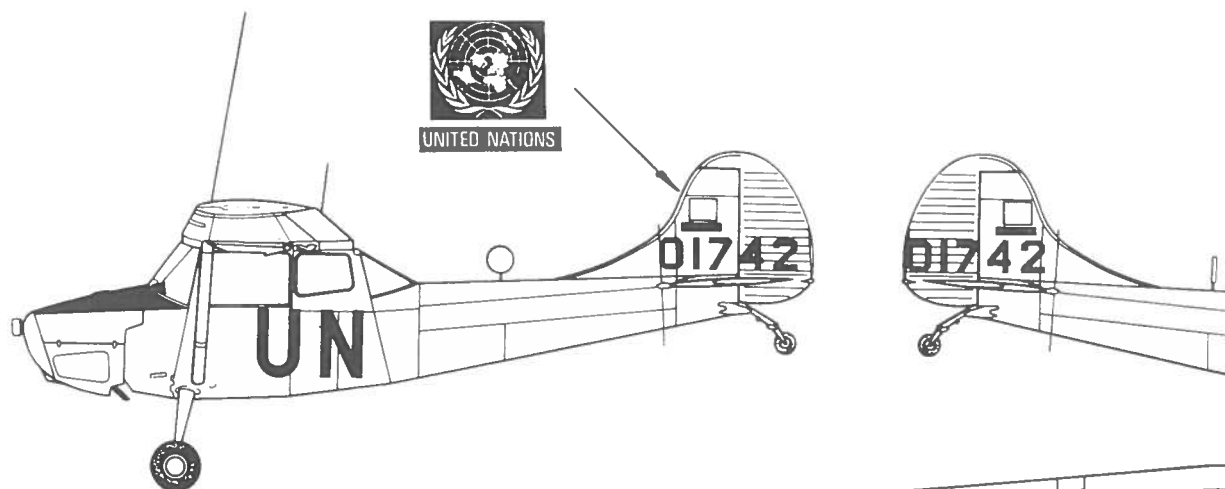


MiG SKETCHBOOK

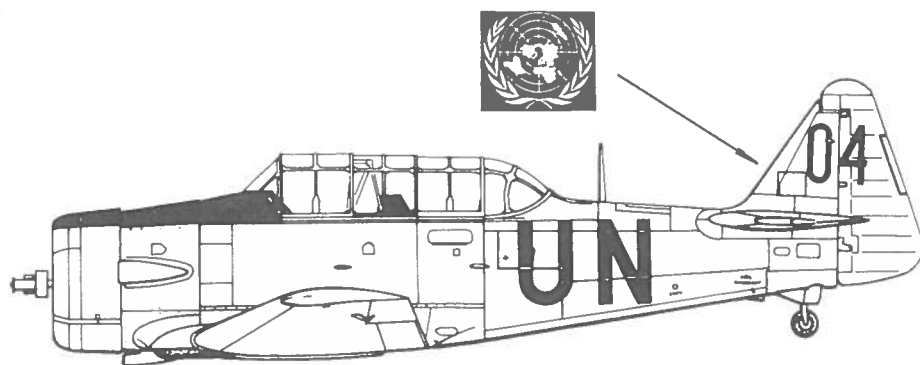
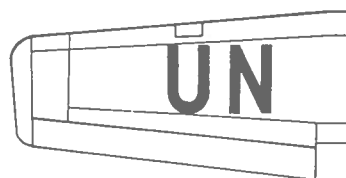
MiG - 21MF



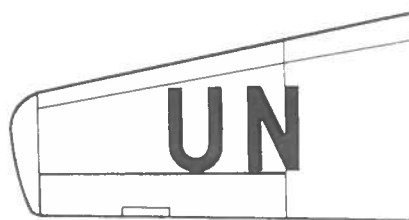
UN in Lebanon



L-19A serial 50-1742 of UNOGIL, August-November 1958. The serial is in black and the text "UNITED NATIONS" probably yellow on brown.



Sk 16A serial 16047 of UNOGIL, July-October 1958. The code "04" is in black. This aircraft had 3/4-length wing walks in black at both wing roots. The exhaust was of the long type, extending to just aft of the wind screen.



UNOGIL (United Nations Observation Group In Lebanon) was set up in June 1958 to monitor the situation following the outbreak of civil unrest that spring. Initially UNOGIL operated four Sk 16As on loan from the RSsAF (serial 16043/code 01, 16047/04, 16055/03 and 16075/02), but these were later replaced by twelve L-19As lent by the US forces in West Germany (known serials are 50-1538, -1740, -1742, 51-4657, -4960, -7300, -7319, -7430, -12422 and -12884). Two early model Bell 47s and seven H-13Es (Bell 47D-1s, including 51-13906) were also operated. The flying personnel were from a number of different countries, including Sweden and Italy. No aircraft were lost by UNOGIL, although frequently fired upon from the ground - the Sk 16As alone were hit on nine occasions. By autumn the situation was beginning to return to normal again and UNOGIL was finally disbanded on 26 November 1958.

All aircraft were painted white with black anti-glare panels and carried the letters "UN" in black in six positions. They also carried the UN insignia in light blue and white. There were some minor variations in the markings carried, particularly on the L-19As.

The drawings originally appeared in IPMS-Sweden Scala 4/1981 and Flyghistoriskt Månadsblad 1-2/1981. In both cases the article was accompanied by a number of photos

Scale 1/72

Leif Hellström (text)/Leif Fredin (drawings)